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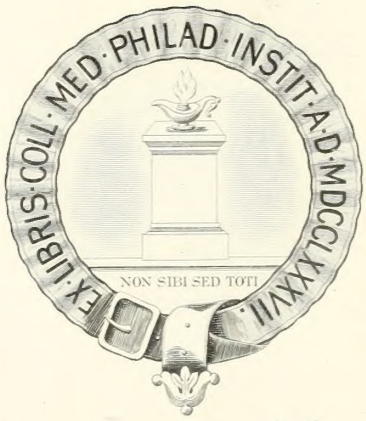

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AUTHORS' INDEX.

ADAMS, J. H.: A Plea for Pay Hospitals for Contagious Diseases 52
ADAMS, J. HOWE: The Surgical Aspects of the Case of President Garfield..... 777
Travel as a Cure for Disease..... 886
ALLAN, B. A.: Pneumonia in Children..... 93
ARONSTAM, N. E.: The Perversions of the Sexual Instinct 46
The Protyle as the Basis of Elemental Individuality 446
BARNES, H. E. W.: Foreign Bodies in the Urethra and Bladder 521
BELL, A. N.: Cod-liver Oil and How to Give it.. 258
BENEDICT, A. L.: A Medical View of the American Indians of the Northeast..... 767
BIERRING, W. L.: Gastrointestinal Autointoxication 481
BISHOP, LOUIS FAUGERES: Importance of Clinical Teaching—Pulmonary Tuberculosis..... 373
BROWER, D. R.: Remarks on Case-taking and Methods of Diagnosis; Locomotor Ataxia 250
The Treatment of Epilepsy..... 449
and WELLS, H. G.: A Meningeal Tumor Involving the Cranial Nerves 881
BROWN, JAMES S.: Pleural and Pericardial Effusions 681
BULSON, ALBERT E., JR.: The Use of Adrenalin Solutions 409
CARSTENS, J. H.: The Requirements of Modern Surgery 413
CONKEY, C. D.: The Use and Abuse of the Galvanocautery in Nasal Surgery..... 161
EASTMAN, B. D.: Insanity as a Defense in Criminal Cases 728
EDSALL, FRANK H.: The Relationship Between Ocular Affections and Systemic Diseases..... 652
FAVILL, HENRY B.: Treatment of Malarial Infection 721
GEHRMANN, ADOLPH: Immunity as a Factor in Prevention of Disease..... 212
GORHAM, GEORGE H.: Adenoid Growths of the Post-pharynx 41
Treatment of the Eye by the General Practitioner 849
HACKETT, W. A.: Gangrene..... 1
HARISON, B. D.: Medical Registration in Michigan 801
Nature in Obstetric and Gynecologic Practice 441
HAYES, D. J.: The Diagnosis of Stone in the Bladder, Kidney, and Ureter by the X-ray, and Some Points in the Treatment of the Same.... 762
HILL, GERSHOM H.: Dementia Præcox..... 526
HUGHES, P. D.: Sarcoma of the Uterus, Involving Broad Ligaments, Mesentery, Intestine, Omentum, and Abdominal Wall, Including Rectus Muscles and Skin; Excision; Recovery.... 605
KRIM, J. M.: Complications and Sequelæ of Typhoid Fever 121
LAPSLEY, ROBERT M.: Correction of Eye Affections with Glasses..... 572
LYDSTON, G. FRANK: Briefs on the Surgery of the Genito-urinary Organs..... 288
MABEM, T.: The Physiological Test—Talks with Medical Men 9
MAPES, C. C.: The Trained Nurse in Obstetrical Cases 731
MARABLE, T. H.: Permanganate of Potassa in Morphine Poisoning; with Report of Cases.... 771
MARSHALL, EWING: The Care of the Aged..... 657
MATHEWS, JOSEPH M.: My Last Six Colostomies, with Some Unique Features..... 90
MORRIS, M. C.: Nasal Syphilis..... 123
MORROW, JOS. E.: Subacute and Chronic Seminal Vesiculitis 3
MOYER, HAROLD N.: Clinical Lecture in Neurology 321
PADDOCK, CHAS. E.: Occipitoposterior Positions: Their Diagnosis and Treatment..... 926
PAINE, J. F. Y.: Report of the Obstetrical Service of the John Sealy Hospital for the Ten Years Ending with 1900..... 921
PARKER, W. THORNTON: Some Practical Points. 931
PATTERSON, PHILO D.: Psychotherapeutics..... 401
RICHARDSON, MAURICE H.: Conservatism in Surgery 81, 125
ROBBINS, FRED'K W.: A Few Don'ts..... 843
ROBERTSON, CHARLES M.: Some Observations on the Treatment of Hypertrophic Rhinitis..... 601
ROBINSON, BYRON: The Artificial Anastomosis of the Portal and Systemic Veins..... 330
ROEMELE, EUGENE C.; Acute Milk Infection... 933
SCHACHNER, AUGUST: Diabetic Gangrene; Amputation; Recovery 285
SENN, N.: Some Surgical Cases.....561, 608
SHELLENBURG, M.: The Use of Cocaine in Spinal Puncture 134
SILVER, E. V.: Diseases in Schools, and Medical Inspection 201
SPAULDING, HEMAN: Municipal Prevention of Disease 208
STEELE, D. A. K.: The Practice of Medicine as a Source of Income..... 326
STONE, WILLIAM RIDGELY: Mercurol Inunctions Preparatory to Skin-grafting in Leg Ulcers.... 287
STURGIS, F. R.: The Duty of the Public to the Medical Profession 281
TIBBALS, FRANK BURR: Ectopic Gestation..... 889
VAN DER VEER, A., and ELTING, ARTHUR W.: A Résumé of the Subject of Actinomycosis; with Report of a Case of Actinomycosis Abdominalis 813
WADDINGTON, B. A.: Diseases of the Upper Respiratory Tract and Ear..... 495
WATHEN, WILLIAM H.: A Brief Report of Some Interesting Surgical Cases..... 487
Report of Surgical Cases..... 533
WEIDNER, CARL: Hysterical Phenomena Simulating a Diverticulum of the Esophagus..... 50
WELLS, EDWARD F.: Malaria: Its Causation and Prevention 690
WILEY, H. W.: Food Adulteration in its Relation to the Public Health..... 241
The Legal and Medical Aspect of Food Adulteration 361
WILSON, FRANK C.: Differentiation of Valvular Cardiac Murmurs 641
WYMAN, HAL C.: Remarks on the Surgery of the Nineteenth Century 168
Surgery of Gastric Hemorrhage and Perforation—The Treatment of Congenital Dislocation of the Hip as Discussed and Practiced in London, England.... 929
The French Congress of Surgery and Urinology 834
The Ship's Surgeon's Infiltration Anesthesia 842

GENERAL INDEX TO VOLUME XIX.

A chance for Americans 580
crystalline immunization product 672
few don'ts 843
Abdominal hemorrhage 126
relaxation a probable factor in the pathogenesis of gall-stones 23
versus vaginal hysterectomy 510
Abortion of pneumonia, the 15
of typhoid fever 151
Abscess of the liver 751
Abscesses, cerebral, caused by metastasis from the bronchial glands 548
Acid intoxication of diabetes, the, in its relation to prognosis 867
Acne, local treatment of 913
Aconitine, certain congeners and derivatives of 674
Actinomyces, the development of upon cereals and vegetable media in general 814
Actinomycosis, a resume of the subject of; with report of a case of actinomycosis abdominalis 813
abdominalis, a case of 819
mammary 468
Actinomycotic contagion, cereals the great carriers of 815
Acute dysentery, the specific treatment of 276
Addison's disease, suprarenal extract in 77
Adenoid growths of the post-pharynx 41
Adhesive rubber dam for the prevention of possible infection at the site of operation 388
Adrenalin chloride, the therapeutic value of 552
clinical experience with 436
in genito-urinary work 665
solutions, the use of 409
Advertising specialist, the 936
Æsculapius, statue of—the recent discovery of a in the Roman Forum 62
Agglutination test in malaria, an 498
Air passages, removal of foreign bodies from the 863
Albumin, test for a trace of 353
the various rings produced in Heller's nitric acid test for 193
Alcohol and tobacco amblyopia, early recognition of 796
in Cuba 437
as a food 676
ethylic—the germicidal power of 71
question, the 79
the food value of 429
the therapeutic value of 756
the value of in the acute infectious diseases of children 314
Alcoholism, gold cures for 262
Alimentation, rectal 932
Alopecia areata, the nature of 37
a theory of 539
following thallium acetate 109
Amaurosis, probable methyl-alcohol, the pathway of entrance of the poison being the lungs and the cutaneous surface 396
Amblyopia, tobacco and alcohol—early recognition of 796
Ambulances, motor cars for in Paris 266
American Indians of the northeast, a medical view of the 767
Amygdalitis, acute: its treatment by the local application of tincture of iodine 794
Amyloform in chronic otitis 154
Amyloid kidney 791
Analgesia from the spinal subarachnoid injection of cocaine 877
Anastomosis of the ureters with the intestine 269
uretero-intestinal—the pathology and bacteriology of 427
Ancient Christian science 700
Anemia 792
of schoolchildren 309
Anesthesia 388
and antiseptics, what they have done for the human race 174
infiltration—the ship's surgeon's 841
Aneurism, aortic—report of a case of 837
hypodermic gelatin injections in three cases of 189
Angina due to the spirochæte bacillus 754
Anthrax 214
a case of 909
Antidote for formaldehyde 311
Antimalarial philosophy 218
Antitoxin, diphtheria, used successfully by the mouth 195
in diphtheria, the value of 716
the reduction of mortality from diphtheria in Denver since the use of 858
Antitoxins, typhoid—progress in 180
Antivaccinationist, an 500
Aortic aneurism, objective disturbances of sensibility in 593
report of a case of 837
Apex pneumonia, the significance of 831
Aphasia 240
Apoplexy, a case of delayed following trauma 790
Appendiceal fistula, the causes of 863
Appendicitis 128, 489, 490, 533
acute—surgical treatment of 507
errors in the diagnosis of 628
etiology and pathogenesis of 67
Appendix not a rudiment 784
Army canteen, the 784
medical arrangements in South Africa, report of the British royal commission on 185
Arsenic in beer 216
poisoning 430
Arteries, suture of 667
Arteriosclerosis 27
management and therapeutics of 875
Arthritis, laryngeal 554
Articular rheumatism, chronic—treatment of 515
etiology of 514
Artificial anastomosis of the portal and systemic veins 330
coloring of foods 247
Ascites, incipient, in the female—the early diagnosis of 120
Aspergillus keratitis, a brief note on 596
Assistant surgeons in the army, ability of young physicians to receive commissions as 504
Atrophy, infantile 717
Atypical initial symptoms in tuberculous meningitis, and their importance 191
Auscultation of normal and pathological muscle sounds 151
Auscultatory percussion 755
Autointoxication, gastrointestinal 481
Average incomes of doctors from their practice 328

Bacilli pathogenic for rats 432
Bacillus coli communis in the throat 391
pestis, the viability of the 752
Bacteria, elimination of by the liver and kidneys 28
Bacterial toxins, the 231
Bacteriology of acute articular rheumatism 310
Bacterium coli in constipation 28
pneumoniæ caviarum 72
Barbers in Montreal, trouble among the 858
Basophile granulations in the red blood-corpuscles 312
Beer poisoning case in England, the 362
epidemic in England—a royal commission to investigate it 298
"Beery-beery" 16
Behavior of oxyhemoglobin, carbonic-oxide-hemoglobin, methemoglobin, and certain of their derivatives in the magnetic field 714
Benefaction, a useful 500
Bier's congestion on the development of bone callus 906
Bile and hippuric acid formation, the relation between 674
pathological changes in the 593
Biologic test for human blood, further communications regarding the 430

Black eye, typical 571
Bladder and urethra, foreign bodies in the 521
tumors of the—the differential diagnosis of 905
urinary—hernia of the 509
Blindness among army horses in Cuba 939
caused by drinking bay rum 957
following an operation for empyema of the frontal sinus 438
resulting from sodium salicylate 797
Blood-coagulating principle of a secretion of the skin 550
examinations of the for pneumococci 73
films, formalin or other fixing vapor followed by absolute alcohol as a wet method for 70
human—further communications regarding the biologic test for 430
pressure in fevers 630
stain, a new 307
the, of infancy and childhood 303
Bloodletting and saline transfusion 31

Book Reviews:

A Reference Handbook of the Medical Sciences. Edited by Albert H. Buck 463
A System of Practical Therapeutics. Edited by Hobart Amory Hare 224, 268, 299
A Text-book of Gynecology. Edited by Charles A. L. Reed 705
Abrams, Albert: Diseases of the Heart 142
An American Text-book of Physiology. Edited by William H. Howell 64
Ayers, Edward A.: Physical Diagnosis in Obstetrics 142
Bryant, Joseph D.: Operative Surgery 627
Bulkley, L. Duncan: Eczema and Its Management 505
Cabot, Richard C.: Clinical Examination of the Blood 748
Carpenter, George: Golden Rules for Diseases of Children 787
Coakley, Cornelius G.: Coakley on the Nose and Throat 463
Corlett, William Thomas: The Exanthemata 902
Craig, Chas. F.: The Estivo-autumnal (Remittent) Malarial Fevers 666
Cushny, Arthur R.: A Text-book of Pharmacology and Therapeutics 103
Dana, Charles L.: Text-book of Nervous Diseases 942
Davis, Edward P.: Obstetric and Gynecologic Nursing 224
De Keersmaecker, J.: Chronic Urethritis of Gonococcic Origin 425
Delafield, Francis, and Prudden, T. Mitchell: A Handbook of Pathological Anatomy and Histology 827
Douglas, Charles: Feeding and Nursing the Baby 344
Eichhorst, Herman: A Text-book of the Practice of Medicine 584
Electro-Therapeutics. Edited by Horatio R. Bigelow 902
Estes, W. L.: The Treatment of Fractures 64
Evans, David James: Obstetrics 21
Ewing, James: Clinical Pathology of the Blood 545
Fischer, Louis: Infant Feeding in Health and Disease 463
Geolet, Augustin H.: The Technique of Surgical Gynecology 386
Gottheil, William S.: Syphilis: Its Diagnosis and Treatment 705
Grandin, Egbert H.: Practical Obstetrics 187
Grasset, Dr.: The Diagnosis of Diseases of the Cord 942
Gray, Henry: Gray's Anatomy 861
Green, T. Henry: Pathology and Morbid Anatomy 21
Haab, O.: Atlas and Epitome of Ophthalmoscopy and Ophthalmoscopic Diagnosis 584
Harrington, Charles: Practical Hygiene 299
Hatfield, Marcus P.: Acute Contagious Diseases of Childhood 545
Huber, G. Carl: Laboratory Work in Histology 545
Hunter, William: Oral Sepsis 425
International Clinics. Edited by Henry W. Cattell 103, 224, 386, 748, 942
Jackson, George Thomas: A Handbook of Skin Diseases 666
Jakob, Christfr.: Atlas of the Nervous System. 748
Kyle, D. Braden: Diseases of the Nose and Throat 344
Leroy, Louis: Essentials of Histology 64
Lloyd, John Uri: Etidorhpa 505
Warwick of the Knobs 861
Lydston, G. Frank: Panama and the Sierras 627
McFarland, Joseph: Text-book of Pathogenic Bacteria 21
May, Charles H.: Manual of the Diseases of the Eye 749
Mays, Thomas J.: Pulmonary Consumption, Pneumonia, and Allied Diseases of the Lungs 268
Monell, S. H.: Rudiments of Modern Medical Electricity 103
Progressive Medicine. Edited by Hobart Amory Hare and H. R. M. Landis 787
Roger, G. H.: Introduction to the Study of Medicine 142
Scudder, Chas. L.: The Treatment of Fractures 386
Senn, N.: Principles of Surgery 425
Shaeffer, O.: Atlas and Epitome of Labor and Operative Obstetrics 584
Obstetric Diagnosis and Treatment 627
Shoemaker, John V.: Materia Medica and Therapeutics 187
Sternberg, George M.: A Text-book of Bacteriology 827
Strumpell, Adolf: A Text-book of Medicine 861
Sturgis, F. R.: Sexual Debility 21
Suggestion and Osteopathy 787
The American Year-book of Medicine and Surgery for 1901 187
The International Medical Annual 386
The Medical News Visiting List for 1902 902
The Medical Record Visiting List, or Physicians' Diary, for 1902 902
The Year-book of the Nose, Throat, and Ear. Edited by G. P. Head and Albert H. Andrews 268
Thomas, Jerome B., Jr.: Detachable Diet Lists 103
Thornton, E. Quin: The Medical News Pocket Formulary 299
Transactions of the American Electro-Therapeutic Association 861
Wainwright, J. W.: A Syllabus of New Remedies 505
Urinary Diagnosis and Treatment 64
Waugh, William F.: The Diseases of the Respiratory Organs, Acute and Chronic 827
Whitman, Royal: Orthopedic Surgery 545, 705
Wright, John W.: A Text-book of Ophthalmology 344

Boro-chloretone as a surgical dressing 931
Bottini operation, present status of in obstructive hypertrophy of the prostate gland 943
Bougie, Eustachian, the 68
Bowels, the treatment of obstruction of the 876
Brain abscess as a result of frontal sinus empyema 636
tumors, the surgical treatment of 84
venous sinuses of the—wounds of the 788
Brains of persons in the various callings, a French investigator on the 14
Bread made from wheat flour a complete human food 243
Breast, differential diagnosis in diseases of the 464
inoperable cancer of the — Beatson's method for the relief of 663
Brief report of some interesting surgical cases 487
Bright's disease, acute 791
clinical varieties of 105
ocular affections in 652
Bromides, the pupil as an index of the efficient dosage of 116
Bronchial disease not invariably a contraindication for ether anesthesia in abdominal surgery 24
diseases, the decubitus treatment of 33
Bronchitis, bacteriology of 109
Bronchus, right—foreign body in the 225
Burden of method, the 699
Butter, tubercular toxicosis from 430

Cacodylic acid, the treatment of consumption with 110
Cadaver, position of vocal cords in the 198
Calculus, renal—treatment of 829
Calomel injections in syphilis 75
Canadian Association for the Prevention of Tuberculosis 342

Cancer, an institution at Moscow for the exclusive treatment of patients suffering from... 423
and fibromyoma... 40
cutaneous—the treatment of... 596
treatment of by electrolysis. 639
increase in mortality from in Swedish towns... 291
of in the Province of Ontario... 297
inoperable, of the breast—Beatson's method for the relief of... 663
of the female breast, the treatment of... 348
of the kidney... 791
of the stomach with unusual vascular and blood conditions... 464
the parasite of... 380, 391
the parasitic theory of... 830
to treat inoperable... 836
uterine—the status of hysterectomy for. 600
Cancers, the clinical course of with reference to their resemblance to inflammatory and infectious diseases... 870
visceral—affection of the inguinal glands in... 667
Can pneumonia be aborted?... 196
Capillaries, the nerves of the, with remarks on nerve endings in muscle... 348
Carbolic acid, pure—the disinfection of wounds with... 427
Carcinoma and fibroma, the coexistence of in the corpus uteri... 316
of the appendix vermiformis... 23
of the breast... 489
the medical aspects of, with a note on the spontaneous disappearance of secondary growth... 350
of the cervix... 494
of the pyloric end of the stomach... 608
question, the present status of the... 585
resection of the stomach for... 227
the treatment of... 756
Cardiac failure, extract of suprarenal medulla in. 395
hypertrophy and atrophy... 550
Care of the aged... 657
Case-taking and methods of diagnosis, remarks on; locomotor ataxia... 250
Catarrhal deafness, systemic factors in... 317
Causation of sex, the essential factor in the... 38
Caustic soda, stomach perforation from... 108
Cavite fever... 146
Century's advance, the... 57
Cerebral abscesses caused by metastasis from the bronchial glands... 548
cyst with autopsy... 709
hemorrhage with verrucose endocarditis. 515
injuries, transitory absence of the knee-jerk in... 302
Cerebrospinal meningitis, bacteriology of... 832
Chancre, soft—di-iodo-salicylate of soda in... 114
Chess-playing, as to... 499
Childhood, mental diseases of... 559
Chloretone as a hypnotic... 234
Chloride of zinc, treatment of chronic diffuse nasal hypertrophies with submucous injections of... 838
Chloroform administration, narcosis before... 743
anesthesia, vomiting after and its prophylaxis... 197
Chlorosis... 792
Cholera... 213
infantum... 933
Choroid, tuberculosis of the... 673
Christian scientist and the osteopath, attitude of the public mind toward the... 282
scientists may be vaccinated... 219
Chrysarobin in the treatment of ringworm of the scalp... 918
Circinate syphilides, ringworms acquired from a cat long mistaken for... 277
Circulatory phenomena as sequelæ of the pregnant uterus... 119
Cirrhosis, experimental hepatic... 304
of the liver... 792
experimental production of 353
pigmentation, of the liver in a case of hemochromatosis... 71
Clinical and pathological study of the rash of scarlet fever... 118
Cocaine, analgesia from the spinal subarachnoid injection of... 877
economy in the employment of... 77
habit, the... 148
in spinal puncture, the use of... 134
touching the nasal fossæ with a solution of in the treatment of the pain of dysmenorrhea... 195
Cod-liver oil and how to give it... 258
Coffee as a beverage, and its frequent deleterious effects upon the nervous system... 107
Cold in the treatment of skin affections... 877
Colles's fracture... 570
Colon bacillus, the role of the in human affections 272
Colored light in the treatment of disease... 461
Colostomies, my last six, with some unique features... 90
Comparative pathology of the Jews... 293
study of the biological characters and pathogenesis of bacillus X (Sternberg), bacillus icteroides (Sanarelli), and the hog-cholera bacillus (Salmon and Smith)... 25
Condyloma acuminatum... 440
Condylomata acuminata linguæ (venereal warts of the tongue)... 397
Congenital dislocation of the hip, the treatment (non-operative and operative) of... 864
dislocation of the shoulder... 303
hypertrophic stenosis of the pylorus.. 145
stridor of infants, on the causation of the... 68
syphilis... 239
late symptoms of... 276
Conjunctival sac, bacteriology of the, and its bearing upon surgical procedure... 236
Conjunctivitis, mild mucopurulent, in the newborn—frost-bite of the cornea due to excessive application of cold in the treatment of... 956
Conservatism in surgery... 81, 125
Constipation, bacterium coli in... 28
habitual—treatment of... 834
Consulting the physician... 823
Consumption, the treatment of with cacodylic acid. 110
Fort Bayard Hospital for... 462
Consumptives, a census of in New York State... 502
Contagious diseases, a plea for pay hospitals for.. 52
Contusion or rupture of intestine... 862
Convulsions, puerperal... 156
with scarlet fever, and their treatment... 228
Corruption of scientific nomenclature... 577
Coryza, periodic and aperiodic—the preponderating rôle of autointoxication in; therapeutic deductions... 198
Cottonseed oil, substitution of for olive oil... 248
Creosotal in whooping-cough... 197
Croup, infantile—with unusual temperature range 474
Croupous pneumonia, treatment of... 675
Cure for tuberculosis... 16
Curetting the urethra in the treatment of chronic posterior urethritis... 269
Cutaneous cancer, the treatment of... 596
treatment of by electrolysis... 639
diseases accompanying diabetes in the aged... 200
Cystitis... 792
Cystoma, intraligamentary, without a pedicle... 493

Dangers of salads, the... 98
Deafness, catarrhal—systemic factors in... 317
Death-rate in Havana, a lower... 421
Debilitating effects of literature... 456
Decinormal salt solution, hot—the treatment of gonorrhea with frequent irrigations of... 276
Decubitus treatment of bronchial diseases, the... 33
Dementia, paretic—the etiology of... 840
præcox... 526
an incurable form of insanity... 533
Dermatitis from salicylate of soda... 959
Dermatology, recent advances in... 318
the social aspects of... 879
Diabetes accompanied by eczema... 155
and pancreas, the... 97
insipidus... 792
in the aged, cutaneous diseases accompanying... 200
mellitus... 792
as a cellular fault... 349
ocular affections in... 653
the acid intoxication of in its relation to prognosis... 867

Diabetic gangrene; amputation; recovery..... 285
early amputation for..... 227
patients, the use of sugar by..... 58
the skin of the..... 155
Diabetics, sugar-free milk as a food for..... 592
Diaphragmatic hernia..... 546
Dietetic treatment of epilepsy..... 716
Diet in epilepsy..... 451
treatment of epilepsy, the..... 911
Diffuse leontiasis ossea, a case of..... 104
pigmentation of the skin, effects of the sun in producing..... 37
Digitalis used as a therapeutic agent, the good and bad effects obtainable from..... 396
Di-iodo-salicylate of soda in soft chancre..... 114
Diphtheria..... 214
antitoxin, unusual dosage of..... 595
used successfully by the mouth..... 195
bacillus, the double stain for..... 948
in a pony..... 73
the pancreas in..... 437
the reduction of mortality from in Denver since the use of antitoxin..... 858
the value of antitoxin in..... 716
treatment of with antitoxin..... 473
Diphtheritic paralysis; apnea; artificial respiration; cure..... 105
Diseases in schools, and medical inspection..... 201
Disinfection of instruments..... 903
Dislocation, congenital, of the hip..... 929
Disorders of menstruation, the therapeutics of... 39
Diverticulum of the esophagus, hysterical phenomena simulating a..... 50
Doctor's bill, a notable..... 381
Dogs, dysentery in—experimental..... 833
Drug business, an increase of ten per cent in the for the year 1900..... 102
Drunkenness among certain classes in India..... 266
among the private soldiers of the army, increase in..... 385
Dust as a factor in diseases of the upper respiratory passages..... 352
Dysenteries, tropical..... 306
Dysentery in dogs, experimental..... 833
the etiology of..... 70
Dysmenorrhea..... 195

Ear disease complicating typhoid, treatment of.. 497
extraction of foreign bodies from the..... 35
Eclampsia, the treatment of..... 911
Ectopic gestation..... 889
Eczema accompanying diabetes..... 155
in old age..... 440
the nervous factor in..... 880
treatment of..... 313
Effusions, pleural and pericardial..... 681
Elimination of bacteria by the liver and kidneys. 28
of peritoneal infection and prevention of surgical peritonitis..... 706
Empyema of the frontal sinus..... 954
blindness following an operation for.. 438
Empyemas of the mastoid cells, acute—shall the antrum be opened in all?..... 80
Endometritis, chronic—treatment of in general practice..... 634
Enteritis syphilitica, melena neonatorum a symptom of..... 878
Enterogenous infection of tetanus..... 302
Epididymitis and orchitis in typhoid fever..... 429
Epilepsy and uric acid, researches into..... 80
dietetic treatment of.....716, 911
the causes and treatment of..... 868
the surgical treatment of..... 86
the treatment of.....112, 449
traumatic—a case of..... 321
Epithelial tumors, benign, of the skin..... 438
Epithelioma of the penis, gangrenous..... 2
Erotomania..... 46
Erysipelas and its relation to pyogenic infections, the etiology of..... 754
the treatment of..... 194
treatment of by ung. Credé..... 236
Erythema from chemical irritation of the urethra 466
induratum scrofulosorum, on the nature of the disease known as..... 838
nodosum and rheumatism..... 879
Estivo-autumnal fever, as to the blood findings in 724
Ethylic alcohol, the germicidal power of..... 71
Etiology of yellow fever..... 192
Eucaine in spinal analgesia..... 426
Eustachian bougie, the..... 68
Experimental hepatic cirrhosis..... 304
study concerning the relation which the prostate gland bears to the fecundating power of the spermatic fluid..... 308
Experiments to explain autointoxication and its treatment..... 232
Extra-uterine (ovarian) pregnancy..... 537
Extract of suprarenal medulla, on certain practical applications of..... 395
Extraction of foreign bodies from the ear..... 35
Extraordinary fecundity..... 219
Eye affections, correction of with glasses..... 572
diseases of the—massage in..... 555
hygiene of the..... 850
perforated—the use of adrenalin solution in the enucleation of a..... 412
treatment of the by the general practitioner. 849

Facial presentation..... 680
Family periodic paralysis..... 69
Famine in Russia, the evidences of approaching. 858
Faradic electricity, by means of the electric brush, in locomotor ataxia..... 257
Faradization in fibrinous pneumonia..... 435
Fatalities of spinal cocainization..... 347
Fatal scalding of the pharynx and larynx..... 309
Fat in the blood, a simple method of detecting.. 874
Febrile diseases..... 792
Fever, a new continued..... 710
Fibroid tumors of the uterus, non-surgical treatment of..... 359
Fibroma and carcinoma, the coexistence of in the corpus uteri..... 316
Fibromyoma and cancer..... 40
Finsen's light method, percentage of success in the treatment of diseases of the skin by..... 798
First-aid packages in railroad accidents..... 896
Fistula, appendiceal—the causes of..... 863
Floating kidney, indications for operation in.... 345
Fly season, the..... 416
Food adulteration in its relation to the public health..... 241
the legal and medical aspect of 361
preservatives..... 462
products, adulterated—the influence of upon health..... 368
value of alcohol, the..... 429
values in practical life..... 335
Foods, decay of due to germ action..... 245
Foreign body as a hindrance to delivery..... 600
in the larynx; intubation; recovery 237
in the right bronchus..... 225
bodies in the urethra and bladder..... 521
removal of from the air passages. 863
Formaldehyde, antidote for..... 311
Formalin for night sweats..... 954
or other fixing vapor followed by absolute alcohol as a wet method for blood films..... 70
the use of causing urticaria..... 398
Formic aldehyde, the inhalation of as an aid in the open-air-treatment of pulmonary tuberculosis 755
Fracture of the olecranon process, two cases of.. 566
of the ribs..... 569
of the skull..... 466
of the spine..... 568
ununited, of the clavicle..... 566
Fractured patella, treatment of by operative measures..... 188
Fraud, an extraordinary case of..... 334
Free trade in medicine, period of previous to 1883 801
French Congress of Surgery and Urinology, the.. 884
Frontal sinus empyema, brain abscess as a result of..... 636
Fusel oil and nicotine, the harmlessness of..... 417
poisoning..... 633

Gall-bladder, cholecystotomy for the removal of stones in the..... 561
Gall-stone operations, the present mortality from 547
Gall-stones..... 130
abdominal relaxation a probable factor in the pathogenesis of..... 23
olive oil in..... 111
the mortality of operations for..... 708
Galvanocautery in nasal surgery, the use and abuse of the..... 161
Gangrene..... 1
diabetic—early amputation for..... 227
Gasserian ganglion, extirpation of the..... 629

Gastric hemorrhage and its surgical treatment.. 190
and perforation, surgery of. 329
occult 465
sedatives 553
ulcer, operations for..... 506
surgical treatment of..... 300
Gastrointestinal autointoxication..... 481
Gastrojejunostomy in gastrectasis of two typical cases 271
Gastroptosis and jaundice..... 351
Gelatin injections 189
Genito-urinary organs, briefs on the surgery of the 288
Geranium maculatum in hemorrhages..... 113
Germless pus in man..... 594
Gestation, ectopic 889
Glass splinters in candy..... 460
Glaucoma, local treatment of..... 475
Glucose, the objections to as a food adulterant.. 244
well made, a wholesome and nutritious food 369
Glycosuria and intermittent fever, a case of pseudoleukemia with 872
in mental diseases..... 907
Gold cures for alcoholism..... 262
Gonococcus, bearing of the upon the treatment of chronic gonorrhea 117
Gonorrhea, acute—injections should not be used in 844
treatment of with protargol.. 951
chronic—bearing of the gonococcus upon the treatment of..... 117
ichthargan in the treatment of..... 113
in the male, prophylaxis and abortive treatment of..... 116
is it curable?..... 856
the treatment of..... 912
of with frequent irrigations of hot decinormal salt solution.... 276
Gonorrheal exanthemata in infants..... 588
myositis 870
synovitis 620
Gout 792
and goutiness and their remedies..... 836
treatment of with quinic acid..... 474
Gritte's operation in gangrene of the foot..... 2
Gunshot wound of the bladder..... 628
wounds in war, the mortality from.... 174
Gustatory sensation, the topography of..... 436

"Habit of growth" in tumors, the..... 261
Hallucinations 480
Hanging and strangling, the anatomical results of 873
Have lymphocytes ameboid movement?..... 873
Headache 632
Heart disease 641
diseases of the—the use of the suprarenal capsule in 434
failure from insignificant superficial ulcerations 754
punctured wound of the—suturing..... 788
Heller's nitric acid test for albumin, the various rings produced in..... 193
Hemiplegia, invigoration of neurons in..... 835
Hemochromatosis, pigmentation cirrhosis of the liver in a case of..... 71
Hemoglobinuria, a new form of..... 273
Hemorrhage, abdominal 126
cerebral, with verrucose endocarditis 515
gastric, and its surgical treatment.. 190
and perforation..... 929
pulmonary—the rational treatment of 150
Hemorrhages, geranium maculatum in..... 113
occult gastric 465
postpartum—suprarenal in..... 418
Hemostatic, suprarenal extract as a..... 953
Hernia, diaphragmatic 546
in children 65
large inguinal 570
lumbar 67
of Fallopian tube without ovary..... 587
of the urinary bladder..... 509
strangulated 866
to avoid 579
Herniotomies, astonishing 789
Herpes zoster, pathology of..... 880
Heterophoria 475
Hindu women, the mortality in childbed among.. 733
Hippocrates, grave of reported discovery of the. 296
Hip, congenital dislocation of the..... 929
the treatment (non-operative and operative) of congenital dislocation of the..... 864

Homatropine as a cycloplegic..... 237
Homeopath and the eclectic, persecution of the.. 282
Hot water vaginal douches, the use of..... 360
weather, the..... 578
How long can a diabetic live after contracting pulmonary tuberculosis? 871
Human actinomycosis, potassium iodide in..... 33
affections, the rôle of the colon bacillus in 272
blood, a new method of determining in medicolegal cases..... 230
Huxley on physiology..... 381
Hydatids primarily affecting the lungs..... 146
Hydrocele 564
and its proper treatment..... 288
Hydrocephalus, chronic—two cases of in infants treated by tapping and by the introduction of aseptic air in the place of the fluid..... 750
recovery in a case of..... 228
Hydrorrhea, nasal—a case of..... 79
Hyperacidity a cause of skin diseases..... 357
Hyperemia, artificially caused—the place of in medicine 469
renal—passive 790
Hyperidrosis of the axilla: its treatment with the thermocautery 76
Hypertrophic rhinitis, some observations on the treatment of..... 601
Hypertrophy of the thymus, sudden death from.. 949
prostatic—treatment of..... 22
Hypnotic, chloretone as a..... 234
Hypnotism, mesmerism, etc., a bill to prevent the practice of by unauthorized persons in New York State 267
Hysterectomy 493
abdominal versus vaginal..... 510
Hysteria in boys and youths..... 159
Hysterical phenomena simulating a diverticulum of the esophagus..... 50
scapulalgia 230

Ichthargan in the treatment of gonorrhea..... 113
Idiosyncrasy for various drugs..... 314
Idiots, myxedematous—thyroid treatment of.... 30
Ilium, two cases of disarticulation of the..... 903
Illegitimate children, the condition and care of.. 62
Illustrious example, an..... 137
Immunity as a factor in prevention of disease... 212
Imperial Chinese University, the organization of at Peking..... 63
Importance of clinical teaching—pulmonary tuberculosis 373
Important decision, an..... 500
Impotence 390
Incomes of medical men in Berlin and the Province of Brandenburg..... 544
Incontinence of urine, epidural injections for.... 896
paraffin injection in..... 354
Indians of the northeast, the anatomy of the.... 770
Industrial sanatorium for the relief of consumptives in Denver..... 339
Infancy and childhood, the blood of..... 303
the value of the Widal reaction in..... 394
Infant feeding, whey-cream modifications in.... 148
Infantile atrophy 717
Infection at the site of operation, adhesive rubber dam for the prevention of possible... 388
of the pleura..... 107
Infectious and contagious diseases, an appropriation by Congress for a laboratory for the investigation of..... 266
diseases, acute, of children—the value of alcohol in the..... 314
Influence of bile on metabolism..... 310
Influenza 214
acute arteritis in the course of..... 669
treatment of..... 354
Inguinal glands, affection of in visceral cancers.. 667
Inhalation of sprays..... 517
Inhibition in mental disease..... 711
Injection method in the treatment of hydrocele.. 289
Insanity as a defense in criminal cases..... 728
in women from a gynecologic and obstetric point of view..... 518
periodical 232
prognosis of importance in determining the form of..... 529
the relation of pelvic diseases to..... 599
Intermittent fever and glycosuria, a case of pseudoleukemia with..... 872
nervous affection of malarial origin 908

Intestinal necrosis of unknown etiology..... 551
Intestine, contusion of rupture of..... 862
Intraligamentary cystoma..... 494
malignant degeneration of an..... 492
Intraligamentous cyst 535
Intranasal operations, adrenalin solutions in.... 411
Intubation, some of the unpleasant features of... 759
Intussusception, the treatment of..... 790
Iodide of potassium in locomotor ataxia..... 257
Iodine test in tinea versicolor..... 119
tincture of—the treatment of acute amygdalitis by the local application of..... 794
Iodism, the influence of rhodan (sulphocyanates) in the secretions upon the production of..... 115
Is gonorrhea curable?..... 856
the American becoming obese?..... 579
Japanese dentists 665
Jaundice and gastroptosis..... 351
Johimbin 594

Katatonia a form of dementia præcox..... 532
Kidney, floating—indications for operation in... 345
movable—the treatment of..... 944
cause and treatment of..... 467
Knee-jerk, transitory absence of the in cerebral injuries 302
Knee-joint, advanced tuberculosis of the..... 616

Labor, the management of..... 924
Laceration of the spleen, and operation..... 189
La grippe rashes in connection with erythematous skin lesions 318
Landry's paralysis 159
Laryngeal arthritis 554
diseases accompanying pregnancy.... 355
tuberculosis, the early appearance of. 955
Laryngitis, tuberculous—the principles of treatment of..... 793
Larynx and trachea, the lymphatic system of.... 554
foreign body in the..... 237
Lateral curvature of the spine, observations on.. 104
Legal and medical aspect of food adulteration... 361
control of syphilis..... 320
Leg, ulcer of the—treatment of..... 874
ulcers, treatment of..... 635
Leontiasis ossea, diffuse—a case of..... 104
Leprosy 900
in Canada 267
in the United States..... 583
mosquitoes as carriers of..... 743
subcutaneous injections of chaulmoogra oil in..... 913
the cure of by the inoculation of rattlesnake poison 19
treatment of..... 435
Letter from London..... 660
Leukemia 792
Lichen planus as a vesicular or bullous disease.. 799
mercury in the treatment of..... 399
Life insurance companies, segregation of total abstinent policy holders in..... 504
Ligation of the carotid artery as an operation preliminary to resection of the superior maxilla 347
Light to the skin, effect of application of..... 797
Liver, abscess of the..... 751
cirrhosis of the—experimental production of 353
Locomotor ataxia, a case of..... 256
Long bones, treatment of simple fractures of.... 752
Lumbar hernia 67
Lungs, a case of hydatids primarily affecting the. 146
Lupus erythematosus and the tubercular bacillus 879
of the face..... 34
treatment of by blue light..... 914
of by phototherapeusis..... 704
vulgaris, multiple, following strumous disease of one elbow-joint..... 719
Lymphangitis 622
Lymph nodes of the neck, acute and chronic—treatment of..... 227
Lymphocytes, have they ameboid movement?.... 873

Malaria 218
a law for its prevention in Italy..... 297
an agglutination test in..... 498
in a child of three weeks..... 351
its causation and prevention..... 690
parasites, the influence of quinine and methylene blue upon..... 431
protection against 58
the prevention and treatment of..... 952
the complications of..... 726
Malarial infection, treatment of..... 721
Male generative organs, tuberculous meningitis in cases of tuberculosis of the..... 832
Malignant disease, the surgical treatment of.... 87
Malpractice suits, insurance against..... 262
Mammary actinomycosis 468
Massage in diseases of the eye..... 555
Mastitis adolescentium 301
Mastoid disease with unusual symptoms..... 356
operations, some observations in..... 236
suppurations, symptoms pointing to the necessity for operative interference in 916
Mastoiditis 572
Maxillary sinus, a case of foreign body in the discovered by radioscopic examination..... 120
Measles and scarlatina, high temperatures in as related to gastrointestinal toxins and fermentations 670
Medical act of 1899, the..... 803
in Michigan, enforcement of..... 809
martyr, a..... 540
profession, the duty of the public to the. 281
registration in Michigan..... 801
Medicine, period of legalized "free trade" in, 1883-1889 802
qualifications to practice in Mexico.... 740
the practice of among the Indians of the northeast 767
Melancholia followed by stupor..... 760
Melena neonatorum a symptom of enteritis syphilitica 878
Ménière's disease, cause and treatment of..... 35
Meningeal tumor involving the cranial nerves.... 881
Meningitis, cerebrospinal—bacteriology of..... 832
tuberculous, in cases of tuberculosis of the male generative organs 832
the atypical initial symptoms in and their importance 191
Menstruation, disorders of—the therapeutics of.. 39
first—the age of in the United States 477
Mental diseases of childhood..... 559
fatigue in schoolchildren..... 428
Menu, a prehistoric..... 854
Mercurial acute polyneuritis..... 560
Mercurol in syphilis..... 875
inunctions preparatory to skin-grafting in leg ulcers..... 287
Mercury in the treatment of lichen planus—disease regarded as a syphilide..... 399
Metabolism, the influence of bile on..... 310
Metastasis from the bronchial glands, cerebral abscesses caused by..... 548
Metatarsalgia 570
Method of detecting the bacillus typhosus..... 591
Methyl-alcohol amaurosis, probable, the pathway of entrance of the poison being the lungs and the cutaneous surface..... 396
Methylene blue and quinine, the influence of upon malaria parasites 431
Metritis, the treatment of..... 793
Michigan board of registration in medicine, expenses of the..... 806
board of registration in medicine, the future financial outlook of..... 808
State Medical Society, the..... 418
Microbe, the, cannot be excluded..... 181
Microbian flora of the human body..... 469
Middle-ear inflammations, the use of adrenalin solutions in..... 411
Middle ear, tuberculosis of the..... 197
Midwifery, the illegal practice of..... 734
Milk, human—amount of iron in..... 470
infection, acute 933
modification of..... 153
supply, conclusions based upon three hundred outbreaks of infectious diseases spread through the..... 511
Miscarriage, the treatment of..... 757
Modern gunshot wounds..... 301
surgery, the requirements of..... 413
Moistening laryngeal mirrors with lysol..... 35
Morphine poisoning, permanganate of potassa in; with report of cases..... 771
the influence of on gastric secretions.. 591
Morphology of bacteriology and its relation to virulence 472
Mosquito bites, treatment of..... 196
Mosquitoes as carriers of leprosy..... 743
the eradication of in New Orleans... 786

Motor sufficiency of the stomach 109
Movable kidney, the treatment of 944
kidneys; cause and treatment 467
Multiple chancre and chancre a distance, a case of possible 556
nodular melanosarcoma of the skin from a nevus 476
Municipal meddling in pharmaceutical science... 895
prevention of disease 208
stables as pharmaceutical laboratories 897
Muscular lesions and tubercle 147
Myelitis, acute 512
Myositis, gonorrheal 870
Myxedematous idiots, thyroid treatment of 30

Narcosis before chloroform administration 743
Nasal hydrorrhea, a case of 79
hypertrophies, chronic diffuse—treatment of with submucous injections of chloride of zinc 838
polypi, the radical treatment of 796
polypus, the treatment of 315
surgery, the use and abuse of the galvano-cautery in 161
syphilis 123
tuberculosis 275
primary—a case of 517
Nasopharynx in scarlatina 676
Natural immunity, the cause of after certain infections 193
Necessary appliances in obstetrical cases 731
Necrosis, intestinal, of unknown etiology 551
syphilitic, of the hard palate—treatment of 436
Nephritis, chronic interstitial 791
parenchymatous 791
Nephroptosis, on bandages for 390
Nerves of the capillaries, with remarks on nerve endings in muscle 348
Nervous disorders associated with abnormal tonsils 670
Neuralgia, the successful management of 520
trifacial—the surgical treatment of... 86
Neurasthenia, the treatment of 840
Neuritis, treatment of by currents of high frequency 794
Neurologist, the present status of the 824
Neurology, clinical lecture in 321
Neurons in hemiplegia, invigoration of 835
New-born, the blood of the 512
New diagnostic method, a 109
Nicotine and fusel oil, the harmlessness of 417
Night sweats, formalin for 954
Non-bacterial pus 549
Non-surgical treatment of fibroid tumors of the uterus 359
Nose, a case of Texas screw-worms in the 160
a foreign body in the 865
Nosebleed, an unusual case of 34
Notable doctor's bill, a 381
Novel messenger service in Maine 746
Nudity cure, practice of in an Austrian village.. 543

Obstetric and gynecologic practice, nature in.... 442
antisepsis 921
Obstetrical cases, the trained nurse in 731
Occipitoposterior positions: their diagnosis and treatment 926
Ocular affections and systemic diseases, the relationship between 652
Old age, eczema in 440
Olive oil in gall-stones 111
the use of in organic and spastic stenosis of the pylorus and duodenum 29
Ophthalmia neonatorum 637
Ophthalmoscope, every physician should become familiar with the use of the 852
Opotherapy in China 181
Organotherapeutics, especially in relation to mental diseases 74
Orchitis and epididymitis in typhoid fever 429
Osteomyelitis involving the metacarpal bone of the middle finger 563
Osteopath and the Christian scientist, attitude of the public mind toward the 282
Otitis, chronic—amyloform in 154
media, the bacteriology of 915
Ovarian adenoma, malignant degeneration of an. 492
cystoma 487
associated with uterine fibroid.. 492
organotherapy 599

Pain, remedies for the relief of 433
Pancreas and diabetes, the 97
wounds of the—operative treatment of 508
Paraffin injection in incontinence of urine 354
Paralysis, family periodic 69
Landry's 159
Parasite of cancer, the 380, 391
which has been observed in syphilitic patients 392
Paretic dementia, the etiology of 840
Patella, fractured—treatment of by operative measures 188
Pathological anatomy, the study of, and its influence upon surgery and other allied branches of medicine 343
Pathology of the so-called functional neuroses.. 479
Pay hospitals for contagious diseases, a plea for. 52
Perforation, gastric 929
of the uterus, instrumental 559
Pericarditis, the etiology of 946
Permanganate of potassa in morphine poisoning; with report of cases 771
Periodical insanity 232
Peritoneal tuberculosis 152
Peritoneum, tuberculosis of the 906
Peritonitis, acute—treatment of 346
tubercular—iodine injections in 152
tuberculosa 72
Pernicious anemia, the nature of 336
Peruol in the treatment of scabies 115
Perversions of the sexual instinct, the 46
Photographs of the mucous membrane of the stomach in the living subject, the successful taking of 341
Phthisical powers, the influence of pregnancy and parturition on the, and the therapeutical value of the induction of abortion 557
Phthisis, direct infection with 867
incipient—a sign of 151
on time-saving methods in the treatment of 794
pulmonary—operative treatment in.... 66
tannoform powder in night sweats of.. 435
Physicians' Guarantee Company 216
Physiological test—talks with medical men 9
Picric acid as a surgical and dermatological dressing 153
Plague in India 140
in Michigan, a suspected case of 294
laboratory established in the Hygienic Institute of Munich 19
the 215, 223
Plasmodium malariæ, the action of quinine on the 24
Pleura, infection of the 107
Pleural and pericardial effusions 681
Pleuropneumonia of cattle 214
Pneumococci, examinations of the blood for 73
Pneumonia 215
apex—the significance of 831
can it be aborted? 196
croupous—treatment of 675
fibrinous—faradization in 435
in children 93
in the obese 150
the abortion of 15
the surgery of pulmonary abscess, gangrene, and bronchiectases following 904
the treatment of 95, 111, 473
veratrum viride in the treatment of.. 275
Pneumothorax produced by sneezing 631
treated by pleurotomy 226
Poisoning, arsenic 430
by fusel-oil 633
chronic arsenical—the condition of the blood and marrow in, with special reference to the occurrence of cutaneous pigmentation 910
morphine—permanganate of potassa in; with report of cases 771
Polyneuritis, mercurial acute 560
Polypi, nasal—the radical treatment of 796
Polypus, nasal—the treatment of 315
Portal and systemic veins, the artificial anastomosis of the 330
Position of the vocal cords in the cadaver 198
Postpartum hemorrhage, causes, prevention, and treatment of 157
hemorrhages, suprarenal in 418
Post-pharynx, adenoid growths of the 41
Potassium iodide in human actinomycosis 33
Practice of medicine as a source of income 326

Pregnancy, laryngeal diseases accompanying..... 355
the diet during..... 738
the toxemia of..... 360
the vomiting of..... 799
Prehistoric menu, a..... 854
Preservation of food, two methods for the..... 244
Preservatives in foods, should they be absolutely prohibited? 246
President Garfield, the surgical aspects of the case of..... 777
McKinley, report of the autopsy on.. 828
Prickly heat, to avoid..... 580
Profanity..... 703
Professional income, the..... 623
Prolapsus uteri, treatment of by a simple operation..... 866
Prophylaxis and abortive treatment of gonorrhea in the male..... 116
Prostatic hypertrophy, the Bottini operation in.. 943
treatment of 22
Protargol in the treatment of acute gonorrhea... 951
in vulvovaginitis in children..... 32
Protection against malaria..... 58
Protyle, the, as a basis of elemental individuality..... 446
Pruritus vulvæ, therapeutics of..... 834
Pseudoleukemia, a case of, with intermittent fever and glycosuria..... 872
Psychotherapeutics..... 401
Ptosis, visceral—causes of..... 280
Puerperal convulsions..... 156
infection, treatment of..... 639
period, slight febrile conditions during the..... 158
sepsis; its prevention and treatment.. 317
Pulmonary hemorrhage, the rational treatment of..... 150
phthisis, operative treatment in.... 66
tuberculosis, four different types of. 374
how long can a diabetic live after contracting? 871
in diabetic subjects, on the occurrence of a.. 551
in early childhood, treatment of..... 73
the inhalation of formic aldehyde as an aid in the open-air treatment of..... 755
the pathological alterations of the kidneys in, in reference to the passage of toxins and tubercle bacilli..... 831
Pupil, the, as an index of the efficient dosage of bromides..... 116
Purpura hemorrhagica, etiology of..... 677
Pus, non-bacterial..... 549
Pyelitis calculosa..... 792
Pyelonephrosis ("surgical kidney")..... 792
Pyogenic infections, the etiology of erysipelas and its relation to..... 754
Pyosalpinx and ovarian abscess..... 491

Quackery as promulgated by public advertisements, prize for best essay on..... 186
Quinine and methylene blue, the influence of upon malaria parasites 431
subcutaneous injections of..... 431
susceptibility, an extraordinary case of.. 795
the action of cn the plasmodium malariæ..... 24
the best way to administer in simple cases of malaria..... 727
the hypodermic administration of in malaria..... 725

Rabies in Germany..... 702
Radical cure for salivary fistula..... 346
Rapid restoration of the functions of a divided ulnar nerve after suture..... 707
Rats, bacilli pathogenic for..... 432
extermination of..... 460
Recent advances in dermatology..... 318
Rectal alimentation 932
Rectus abscess in typhoid fever..... 753
Red blood-corpuscles, the basophile granulations in the..... 312
corpuscles in urine, appearance of..... 869
Reducing weight, the rational method of..... 783
Registration of unqualified persons in Michigan.. 809
Reinoculation of persons repeatedly bitten by a rabid animal 394
Relation of unbalanced physical development to pubertal morbidity as shown by physical measurements 720
Relationship between anemic blood and the bone-marrow..... 229
Remarkable fast, a..... 665
Remedies for the relief of pain..... 433
Removal of pelvic inflammatory masses by the abdomen after bisection of the uterus..... 144
Renal calculus, treatment of..... 829
gravel..... 791
hyperemia, acute..... 790
Report of surgical cases..... 533
Requirements of modern surgery, the..... 413
Resection of the posterior nerve roots for sciatica 104
of the superior maxilla, ligation of the carotid artery as an operation preliminary to..... 347
Rheumatism, acute articular—bacteriology of... 310
articular—etiology of..... 514
in children, the manifestations of.. 713
chronic articular—treatment of.... 515
Rhinitis, hypertrophic—some observations on the treatment of..... 601
Rhodan (sulphocyanates), the influence of in the secretions upon the production of iodism..... 115
Ribs, fracture of the..... 569
Rickets, the pathogenesis and treatment of..... 235
Ringworm, goose grease as an excipient in the treatment of..... 477
of the scalp, treatment of.....917, 918
Ringworms, acquired from a cat, long mistaken for circinate syphilides..... 277
Rôle of the infections in diseases of women..... 478
Ruling passion, the..... 456

Salads, the dangers of..... 98
Salicylate of soda and asperin in the treatment of rheumatic sclerokeratitis..... 357
Saline transfusion and bloodletting..... 31
Saliva in diseased conditions of the body..... 106
Salivary fistula, radical cure for..... 346
Sarcoma and the sarcoid growths of the skin... 597
of the uterus..... 605
primary, of the stomach, the diagnosis of..... 225
Satyriasis..... 47
Scabies, peruol in the treatment of..... 115
Scalding, fatal, of the pharynx and larynx..... 309
Scalp, a peculiar disease of the..... 359
treatment of ringworm of the.....917, 918
Scarlatina and measles high temperatures in as related to gastrointestinal toxins and fermentations..... 670
the nasopharynx in..... 676
Scarlatinal virus, the tenacity of..... 671
Scarlet fever, a clinical and pathological study of the rash of..... 118
throat symptoms in..... 106
treatment of convulsions with..... 228
Schoolchildren, mental fatigue in..... 428
the anemia of..... 309
Schneller's carcinoma parasite..... 673
Sciatica, resection of the posterior nerve roots for..... 104
Sclerokeratitis, rheumatic—salicylate of soda and asperin in the treatment of..... 357
Scrofula or tuberculosis, relation of freckles to.. 38
Scurvy..... 792
Seminal vesiculitis, subacute and chronic..... 3
subacute and chronic—treatment of..... 7
Senn medal, conditions governing the competition for the..... 859
Sexual instinct, the perversions of the..... 46
Significance of faucial tonsils in young children as to point of origin for tubercular infection.. 78
Simple fractures of long bones, treatment of.... 752
Singers' nodules..... 278
Six children at a birth..... 665
Skin affections, the treatment of by cold..... 877
hyperacidity a cause of..... 357
of the—percentage of success in the treatment of by Finsen's light method..... 798
rôle of pus organisms in the production of..... 319
-grafting in leg ulcers, mercurol inunctions preparatory to..... 287
the blood-coagulating principle of a secretion of the..... 550
Skin diseases, a contribution to the therapeutics of 958

Skull, fracture of the 466
Sleeping sickness, a commission appointed to study the, in the Province of Angola 340
discovery of the bacterium causing 826
in Angola 140
Smallpox, an unusual type of, with fatal termination 718
at Progresso, Yucatan—a report from the U. S. consul regarding 341
the diagnosis of 305
Society of Friends, uncommon longevity of members of the 260
Sodium bicarbonate in the vomiting of pregnancy 400
salicylate, blindness resulting from 797
Some surgical cases 561, 608
Sore nipples, treatment of 31
Specific blood changes after urine injections 672
Spinal analgesia, eucaine in 426
cocainization, fatalities of 347
the danger of 294
cord, the principles of diagnosis of lesions of the 633
puncture, the use of cocaine in 134
subarachnoid injection of cocaine, analgesia from the 877
Spine, fracture of the 568
lateral curvature of the—observations on. 104
Spirochæte bacillus, angina due to the 754
Spleen, laceration of the, and operation 189
Sprays, inhalation of 517
Spurious vaccinia 638
Stain for elastic fibers in sputum 352
Start the babies right 474
Stenosis, organic and spastic, of the pylorus and duodenum—the use of olive oil in 29
Sterilization of silk catheters 468
Stomach, a case of total extirpation of the 387
cancer of the with unusual vascular and blood conditions 464
carcinoma of the pyloric end of the 608
motor sufficiency of the 109
perforation from caustic soda 108
resection of for carcinoma 227
the diagnosis of primary sarcoma of the 225
the surgery of chronic ailments of the. 509
"Stomatite erucique" 274
Stone in the bladder, kidney, and ureter, the diagnosis of by the x-ray, and some points in the treatment of the same 761
Stones in the gall-bladder, cholecystotomy for the removal of 561
Strabismus and its treatment 878
Strangling and hanging, the anatomical results of 873
Strangulated hernia 866
Strangulation of an intestinal loop by the appendix growing around it 510
Stricture, urethral—continuous dilatation in 145
Stridor of infants, congenital—on the causation of the 68
Strophanthus 9
Stupor, melancholia followed by 760
Subcutaneous injections of quinine 431
Sugar test, a new sensitive 194
the use of by diabetic patients 58
Sulphate of copper in affections of the cornea and of the lid other than trachoma 596
Sun, effects of the in producing diffuse pigmentation of the skin 37
Suprarenal capsule in diseases of the heart, the use of the 434
the aqueous extract of as a hemostatic 154
extract as a hemostatic 953
in Addison's disease 77
in postpartum hemorrhages 418
medulla, extract of—on certain practical applications of 395
Surgeon's sewing machine, a 340
Surgery, conservatism in 81, 125
modern aseptic—the impossibility of carrying out in a private house 413
of the nineteenth century, remarks on the 168
the practice of among the Indians of the northeast 768
vaselin injections in 179
Surgical aspects of the case of President Garfield 777
cases, a brief report of some interesting 487
preparation and after-care of 270
hints 144, 389, 546, 709
operation, the story of a remarkable ... 342
treatment of cancer of the stomach, kidney, and uterus 89
Suture of arteries 667
Sweat baths and baths which increase bodily temperature 715
Symptomatic anthrax 215
Synovial tuberculosis 569
Synovitis, gonorrheal 620
Syphilis and associated affections 199
calomel injections in 75
congenital—late symptoms of 276
—time of onset of cutaneous symptoms in 239
discovery of the bacillus of 588
legal control of 320
malignant—Zittmann's decoction in 238
mercurol in 875
nasal 123
ocular affections in 654
perchloride of mercury injections in 234
the hypodermic injection of the sozoiodol of mercury in the treatment of 319
the serum treatment of 914
Syphilitic fever 513
necrosis of the hard palate, treatment of 436
patients, on a parasite which has been observed in 392

Tampon, gauze, left in the abdomen after a laparotomy 102
Tannoform powder in night sweats of phthisis ... 435
Tendon transplantation 945
Tetanus, a cured case of 668
enterogenous infection of 302
in St. Louis 895
serum treatment of 714
traumatic—the treatment of 795
Texas screw-worms in the nose 160
Thallium acetate, alopecia following 109
Thermocautery, the treatment of hyperidrosis of the axilla with the 76
Thermometers, clinical—the bacteriological examination of 514
Thermometric fluctuations in childbed 158
Three hundred outbreaks of infectious diseases spread through the milk supply, conclusions based upon 511
Throat, bacilus coli communis in the 391
removal of fish bones from the 629
symptoms in scarlet fever 106
Thymus, sudden death from hypertrophy of the .. 949
Thyroid treatment of myxedematous idiots 30
of some rare cases 154
Tinea versicolor, recent clinical observations upon 117
the iodine test in 119
Tobacco amblyopia and alcohol in Cuba 437
and alcohol amblyopia, early recognition of 796
inconsistency 336
Tokelau 274
Tonsillar region, external palpation of the 662
Tonsillotomy rash 709
Tonsils, hypertrophied—the use of the galvanocautery in 166
indications for the removal of the 750
Total extirpation of the stomach, a case of 387
Toxemia of pregnancy, the 360
Toxicosis, tubercular, from butter 430
Toxins, tubercular, in milk 742
Trachea and larynx, the lymphatic system of 554
removal of a foreign body from the, by means of an electromagnet 758
Trained nurse in obstetrical cases, the 731
Trauma, a case of delayed apoplexy following ... 790
Traumatic epilepsy, a case of 321
Travel as a cure for disease 886
Trephination of the sphenoidal sinus through a healthy maxillary sinus 595
Trigger-finger 27
Trional, the effects of 432
Tropical dysenteries 306

Tubercle bacilli, about 312
in butter and margarin 353
bacillus from human and bovine sources, comparative virulence of 668
Tubercular glands of the neck 621
toxicosis from butter 430
toxins in milk 742
Tuberculides, the nature of 36
Tuberculosis, a case of primary nasal 517
advanced, of the knee-joint 616
cure for 16
cutis 318
deaths from among postoffice employees in France 291
diplococcus semilunaris, a concomitant of 908
etiological factors of 712
experimental and clinical cinnamic acid and igazol in 675
glandular 571
laryngeal—the early appearances of 955
nasal 275
new views bearing on 292
of children 822
of the choroid 673
of the genital organs of the female. 960
of the kidney 791
of the male generative organs, tuberculous meningitis in cases of.. 832
of the middle ear 197
of the peritoneum 906
or scrofula, relation of freckles to. 38
peritoneal 152
precautions against the spread of in the German empire 20
primary intestinal, in children 951
pulmonary—four different types of. 374
—how long can a diabetic live after contracting? 871
—on the occurrence of a in diabetic subjects ... 551
—the inhalation of formic aldehyde as an aid in the open-air treatment of 755
—the pathological alterations of the kidneys in, in reference to the passage of toxins and tubercle bacilli 831
—treatment of in early childhood 73
serum diagnosis of 471
synovial 569
the personal factor in 910
Tuberculous immigrants, debarring of from all ports of the United States 503
laryngitis, the principles of treatment of 793
meningitis, the atypical initial symptoms in and their importance .. 191
peritonitis, iodine injections in 152
urine 897
Tubo-ovarian abscess 535
Tumors, frontal—the diagnosis of 467
of the bladder, the differential diagnosis of 905
of the skin, benign epithelial 438
the "habit of growth" in 261
the pathogenesis of 548
Tympanites of typhoid fever, treatment of the ... 114
Typhoid antitoxins, progress in 180
bacilli from the roseola 194
bacillus, the 713
cultures, researches into the active substances in 432
fever, abortion of 151
a new prognostic sign in 217
complications and sequelæ of 121
curious phenomena seen in 471
in children, value of the Widal reaction in the diagnosis of ... 950
orchitis and epididymitis in 429
preventive inoculations against .. 215
rectus abscess in 753
the hemorrhagic diathesis in, and its relationship to purpuric conditions in general 143
Typhoid fever, tympanites of—treament of the .. 114
with intestinal perforation, remarks concerning operation in cases of 271
infection from an autopsy 593
urines, the disinfection of affected 108

Ulcerations, insignificant superficial—heart failure from 754
Ulcer, gastric—operations for 506
—surgical treatment of 300
of the leg, treatment of 635, 874
Upper respiratory passages, dust as a factor in diseases of the 352
tract and ear, diseases of the. 495
Uremia 791
Uretero-intestinal anastomosis, the pathology and bacteriology of 427
Urethra and bladder, foreign bodies in the 521
erythema from chemical irritation of the 466
examination and treatment of the 845
Urethral stricture, continuous dilatation in 145
Urethritis, chronic posterior—curetting the urethra in the treatment of .. 269
—the treatment of 845
Uric acid and epilepsy, researches into 80
the origin of 947
Urinary bladder, total extirpation of the 588
fever, the relationship of the colon bacillus to 273
Urine, appearance of red corpuscles in 869
incontinence of—paraffin injection in 354
relation of to disease 790
tuberculous 897
Urnings 48
Urotropin, the therapeutics of 233
Urticaria the result of the use of formalin 398
Use of obstetric forceps 158
Uterine cancer, the status of hysterectomy for .. 600
myoma 488
myomata 536
Uterus, application of steam to the 517
instrumental perforation of the 559
non-surgical treatment of fibroid tumors of the 359
pregnant—on circulatory phenomena as sequelæ of the 119
retrodisplacements of the in young girls and unmarried women; their frequency and the best methods of treatment 919
sarcoma of the 605
unilateral oophorectomy and ventrofixation for retroversion of the 563
Utility of veils as means of preventing infection through the lungs 26

Vaccination, a century of 949
Vaccinia, spurious 638
Vaginal douches, hot water—the use of 360
Valvular cardiac murmurs, differentiation of 641
Varicella in adults 393
Varicocele, extensive 565
Various substances used in the preservation of human foods 245
Vascular nevus, the treatment of 679
Vaselin injections in surgery 179
Vegetarianism, views on 455
Venereal warts of the tongue 397
Veratrum viride, the use of in the treatment of pneumonia 275
Verruca vulgaris 439
Vertigo, mechanical treatment of certain forms of 313
Vesiculitis, seminal—subacute and chronic 3
Virchow's eightieth birthday, celebration of in Berlin 859
Virus, the method of preparing in the Berlin Pasteur Institute 423
Visceral ptosis, causes of 280
Vocal cords, position of the in the cadaver 198
Vomiting after chloroform anesthesia and its prophylaxis 197
of pregnancy, sodium bicarbonate in the 799
Vulvovaginitis in children, protargol in 32

Wernicki's conduction aphasia, a case of, with autopsy 240
Whooping-cough, creosotal in 197
the etiology of 513
treatment of 635
Widal reaction in infancy and childhood, the value of the 394
Widows, the case of 16
Woman with the hatchet 136
Women in medicine 901
physicians first introduced by Russia 341
Wood charcoal a substitute for iodoform 117
Workmen's insurance in Germany 702
Wound, punctured, of the heart—suturing 788
Wounds, modern gunshot 301
of the pancreas, operative treatment of. 508
of the venous sinuses of the brain 788
the disinfection of with pure carbolic acid 427
Writer's cramp, a case of 323

X-ray laboratory, a new, in the University of Bellevue Hospital Medical College 420
the value of in detecting stone in its incipiency 763

Yellow fever 901
a campaign of extermination of undertaken in Cuba 296
experimental 551
propagation 661
report on by the Yellow Fever Commission of the Liverpool School of Tropical Medicine 231
the etiology of 192
vaccine 459
Youthful malingering, a case of 98

Zittmann's decoction in malignant syphilis 238

THE MEDICAL AGE

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ORIGINAL CONTRIBUTIONS.

GANGRENE.

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The following cases, occurring in my practice, are so rare and the results so satisfactory that they are worth reporting:

Case 1.—Mr. H. H——, German, aged fifty; occupation, city expressman. Family history and previous health very good. His work required him to be on his feet most of the time. He had a bunion on the left foot, at the dorsal surface of the base of the small toe, for years, and it began to pain him about a month before he consulted me. On examination, there was noticed a small, dirty-looking ulcer about half an inch in diameter and quite deep, situated where the bunion had been. The ulcer was surrounded by a dark crust or gangrenous ring, the whole lesion being one and a quarter inches in diameter. The surrounding skin was red and swollen; in fact, the dorsal surface of the foot was swollen as far as the ankle. The odor was very offensive. His temperature ran from 101° to 102½° F.; bowels were constipated, with loss of appetite.

Magnesium sulphate was given internally to keep the bowels open. The crust surrounding the ulcer was removed, and hydrozone applied to the lesion. Gauze wet with glycozone was kept applied afterward, and improvement was rapid, recovery being complete in four weeks, so that he could resume his usual work.

Case 2.—Mrs. F——, aged fifty-six years; housewife; born in Poland. She had always been strong and healthy until March, 1898, when she began to fail in strength, and in April she noticed the toes of her left foot becoming black. About April 10 she consulted a "learned" graduate of the Independent Medical College, who applied

lotions, salves, etc., and continued to treat her until I was called in the following August. By this time the whole foot was softened and black with numerous bluish-red and greenish spots in places. It was a case of moist gangrene, accompanied by decomposition. The odor was very penetrating and sickening, so much so that a senior student, who went to see the case, fainted in the patient's room. The epidermis was elevated by blebs, filled with a stinking liquid. There was complete loss of sensibility in the foot, and a cold feeling on palpation, with loss of function. The line of demarcation — that is, a demarcating inflammation and suppuration — encircled the foot just below the ankle-joint, forming an ulcerated trench about half an inch wide and one-quarter of an inch deep. She complained of severe pain in this area. She was very anemic, with slight arteriosclerosis. Appetite was fair and bowels regular, with temperature sometimes 1° F. below normal, and again 2° F. above. There was no history of any injury to the foot; the gangrene seemed to be due to the anemia.

She was put on large doses of tinct. ferri muriat., which seemed to agree with her, and was operated on three days after I first saw her, which was on August 15. Gritte's operation (*i.e.*, amputation at the thigh) is recommended by nearly all authors in these cases of gangrene of the foot, but I amputated below the knee at the junction of the upper and middle third. There was very slight hemorrhage during the operation, and the vitality of the flaps seemed to be much below par. Hydrozone (fifty-per-cent strength) was applied to the flaps before stitching, and gauze wet with glycozone was used as a dressing afterward.

Contrary to my expectations, the wound healed without becoming gangrenous. Of course it took two months to heal completely, but even this was excellent. During this time the tinct. ferri muriat. was given in five- to ten-minim doses three times a day, and the condition of the blood was much improved. I last saw her in January, 1900; she looked well and was going around with a crutch, but said she was saving money to buy an artificial limb.

Case 3.—Gangrenous epithelioma of the penis. This case, which I saw in consultation with Dr. N. E. Aronstam, occurred in a man eighty years of age, a Polander by nationality, with a good past and family history. Patient thought it was due to a kick received during a fight. Examination revealed a gangrenous epithelioma of four months' standing. A large granulating mass involved the glans penis for nearly the whole extent of its superior surface, with a concentricity of "healthy" granulations toward one side. The prepuce was almost sloughed off, for no trace of it could be recognized. The mass meas-

ured two inches in diameter. At the inferior surface of the penis there was also a gangrenous mass covered with a gelatinous material of a putrid, cadaveric odor. The meatus urinarius was displaced, assuming a curved direction, for it was situated one-quarter of an inch beyond the apex of the glans penis—a real epispadias. One gland in the right inguinal region was enlarged and fluctuated on palpation. The patient had been treated by different physicians with various "salves."

An operation was advised, and amputation was performed in the usual manner. A rubber catheter was inserted and left in the urethra for five days to prevent stricture. The inguinal gland was incised, when a large amount of seropurulent fluid escaped. The penis and the cavity in the groin were cauterized with hydrozone and dressed with iodoform gauze. A purulent urethral discharge appeared after the removal of the catheter, but disappeared in a few days under the use of injections of hydrozone five-per-cent in warm water. The patient made a prompt recovery, and one year has elapsed without any return of the disease.

SUBACUTE AND CHRONIC SEMINAL VESICULITIS.

BY JOS. E. MORROW, M.D., INDIANAPOLIS, IND.

Acute inflammation of the seminal vesicles was recognized as a disease early in the last century; but Ripon's article in 1859 gave us the first good description of it. Not until the early nineties, however, was special attention given to the study of subacute and chronic seminal vesiculitis. The absence of inflammatory symptoms, in this form of vesicular disease, was the probable cause of its existence remaining so long unrecognized. It was the intractability of some functional, and what seemed to be incurable, deep urethral disturbances which led Fuller to suspect and study the vesicles as a possible source of these disorders. The publication of his book on Sexual Disorders has thrown much light on this previously obscure disease.

Anatomy.—In order to serve the purpose of this paper, it is necessary that the grosser anatomy of the parts be briefly reviewed. The seminal vesicles are two piriform sacs attached to the posterior part of the base of the bladder. Connected with the fundus and anterior surface of each are three blind pouches. Beginning at the middle of the posterior border of the prostate, they extend obliquely upward and outward two and a half inches, are a little over a half-inch at their widest part, and a fourth of an inch thick. On their inner sides lie the ampullæ of the vasa deferentia, which discharge their contents

through valve-like openings in the walls of the vesicles near the origin of the ejaculatory ducts. The vesicles have three coats—the mucous, muscular, and fibrous.

The mucous membrane is lined with columnar epithelium and contains small tubular glands, which secrete a viscid, bluish-white fluid that dilutes and preserves the testicular secretions. The muscular coat at the base is not divisible into layers, and is so intimately connected with the muscular structure of the prostate that it is difficult to determine where the border of that body leaves off and the vesicles begin. At the summit the muscular coat is divided into four layers. The fibrous sheath is, at the base, an extension of the same coats of the ampulla and prostate; that covering the summit is formed by the weaving together of the filaments extending upward and backward from the fibrous bands binding the prostatic body to the rectum. The interspace between the vesicle and bladder is filled in with delicate connective tissue, which in fat people usually contains adipose tissue. The ejaculatory ducts begin near the posterior border of the prostate, and entering a common sheath pass through an infundibuliform lymph space in the body of the gland and discharge into the sinus pocularis.

Pathology.—This divides into: (1) A consideration of the changes induced in the vesicular wall and perivesicular tissue; (2) the change in vesicular contents.

The resulting changes in the coats and perivesicular tissue differ much in subacute and chronic vesiculitis. In the subacute the inflammation and consequent deposit is limited to the walls of the sac, while in the chronic form there is a tendency to increasing perivesicular deposit. In the subacute variety where the inflammation has involved only the mucous membrane, there is at first a slight thickening of the walls of the sac, followed by distention and thinning of the walls. This is due to defective ejaculation resulting from lack of the vesicular fluid necessary to dilute the thick testicular secretion. Then, too, cases are met where, without any evidence of inflammation, the vesicle is distended and its walls thinned. As this condition is found only in anemic and neurasthenic patients, there can be little doubt that the muscular atrophy permitting this distention is due to defective innervation. If these cases be not properly treated, inflammation results. A varying degree of thickening of the vesicular wall is usually present. The exudation may be limited to the submucous tissue, or it may occur between the muscular layers. There may be hypertrophy with contraction, or the same condition with dilatation. The latter condition, though, is usually associated with muscular atrophy.

In chronic vesiculitis the deposit in the walls of the sac is not only

more pronounced, but there is a tendency to progressive perivesicular exudation. This varies with the severity and chronicity of the case, from a slight deposit in the connective tissue between the vesicles to the rectoprostatic bands, to a filling up of the rectovesical space and that on either side of the bladder with the exudate. This exudate is at first in a condition of hard edema, but it finally becomes fibrous.

Tubercular inflammation of these parts is very important; it may be acute, subacute, or chronic. The acute is very rarely met. The subacute is much more common; it causes slight thickening of the vesicular coat and change of consistency, but seldom gives rise to subjective symptoms. In the chronic form, although the vesicular contents and walls of the sac are changed, the latter becoming inelastic, the characteristic feature is extensive perivesicular involvement.

The changes in the seminal fluid are: (1) Change of color, and (2) change in consistency.

Abnormal color of semen usually depends on the presence of blood or pus. The coloring lent by the admixture of blood depends on the amount, and the length of time that has elapsed since the hemorrhage occurred. If the bleeding be abundant and recent, the semen has the characteristic color of blood. The red tinge varies with the amount of hemorrhage from a bright red to a slight reddish hue. The description holds good where hemorrhage is not recent, except that in the latter cases the coloring lent by the blood changes from the reddish tinges to black or coffee-ground where the bleeding has been abundant, or brownish or rusty color where it has been slight.

The color due to the presence of pus depends on the same rule as that on the presence of blood. If the pus be abundant and fresh there will be the creamy yellow characteristic of pus. If the admixture be less, the yellow color will be less accordingly. If the pus be old, a greenish hue takes the place of the yellow. It sometimes happens that blood and pus coexist.

Neither blood nor pus occurs in that of subacute cases. Sometimes when the chronic cases take on an acute character, pus exists. In very chronic cases bleeding is a frequent pathological factor.

A consideration of the act of ejaculation will show that variations of consistency are of the greatest importance. The change in consistency varies much according to the stage of the disease. There may be only the thickening due to the absence of the vesicular secretion, or the semen may become so thickened as to be almost putty-like in consistency.

Etiology.—There are three classes of this disease:

I. The simple, caused by: (1) Sexual excesses; (2) undue sexual

excitement; (3) unnatural sexual relation, such as (*a*) premature withdrawal, (*b*) tight condoms; (4) sudden cessation by those accustomed to regular sexual intercourse; (5) mental strain and overwork; (6) lack of nerve force to the muscular coats of the vesicle.

II. Gonorrheal. This form is induced by the lesions due to gonorrhea, such as stricture, posterior urethritis, etc. Direct extension causes acute seminal vesiculitis. Considerable time may elapse in these cases between the cause and effect, it being known not to become evident for from two to seven years from the date of the gonorrhea.

III. The third class is due to tuberculosis. In this there may be a mixed infection; a gonorrhea having engrafted itself upon a latent tuberculosis. This sometimes produces an acute vesiculitis, but the usual form is subacute and chronic.

Symptoms.—The development of this disease, if it does not follow an acute inflammation, is very insidious. There being only in rare cases inflammatory symptoms, it frequently happens that it is only when disturbance of function or reflex nervous derangements attract attention that the patient consults a physician. The symptoms which should cause a suspicion that the vesicles are the probable source of disturbance are:

1. Frequency of urination, especially during the day.
2. The patient feels as if he had not completely emptied the bladder.
3. Fulness and stiffness of neck of bladder.
4. A sense of fulness over the pubis.
5. Burning pain in the perineum, especially when the patient is quiet. (This is sometimes the only symptom.)
6. Pain in the sacral region.
7. Pain in the groins, especially when going upstairs.
8. Troublesome erections, especially at night; and as the disease progresses, imperfect erections.
9. Increased sexual desire.
10. Loss of sexual desire.
11. Lack of pleasurable sensations during sexual intercourse.
12. Retarded emissions.
13. Premature emissions.
14. Painful emissions.
15. Emissions without sufficient cause.
16. Passive loss of semen, unassociated with sexual excitement, especially during a constipated movement. The writer is now treating a case which on two occasions, while straining at stool, passed from the meatus gelatinous masses of semen.

17. Bacteria in the urine; other sources having been excluded.

18. Chronic urethral discharge, when there is no discoverable urethral lesion.

19. There is also sometimes found in the urine, glossy, sticky masses containing spermatozoa.

20. A case was recently seen where a most annoying symptom was a cold, clammy sensation of the glans penis.

Almost all of these symptoms are intensified by sexual excitement, the paroxysm sometimes lasting several days. If space would admit, there could be enumerated a number of reflex neurotic disturbances which, although there be no apparent connection with the vesicular disease, yet their dependence on it is shown by their disappearance when the restoration of the vesicle is complete. From what has been said it is evident that the symptoms of this disease are varying and indefinite, and even contradictory, for opposite conditions have been cited as a reason for suspecting the same cause. Often there may be only one of the symptoms present; but when any of them exists, other sources having been excluded, seminal vesiculitis is to be suspected.

Diagnosis.—From the number and indefiniteness of symptoms, it is evident that the diagnosis must be exclusive. The diseases to be excluded are stricture, posterior urethritis, prostatitis, spermatorrhea, cystitis, and pyelitis. But, after all, the only really effective means of diagnosis is digital examination per rectum. The examiner having become familiar with the anatomy and feel of the normal parts, will readily recognize the previously described pathological conditions. This is especially true of the simple and gonorrheal varieties. But it is necessary that the finger of the genito-urinary surgeon be as carefully educated in the rectal feel as that of the gynecologist is in vaginal touch, in order that the finer grades of differences may be appreciated.

To exclude tubercular origin is not always easy; but as the vesicles are seldom the primary seat of the disease, the evidence of tubercle in other organs will make the character of the inflammation clear.

Prognosis.—The prognosis is usually good, if the patient be under forty and of fair physique, and tuberculosis be excluded. The chances of recovery, however, are diminished if the case be very chronic, say from seven to ten years' duration. Seminal vesiculitis associated with senile hypertrophy does not yield readily to treatment. In tubercular cases the prognosis is uniformly bad. In all cases, since so much depends on the cooperation of the patient, and many have not the self-control necessary to follow the regimen prescribed, it is better to give a guarded prognosis.

Treatment.—In subacute and chronic vesiculitis the only treatment,

except in the tubercular form, that is effective is milking or stripping the vesicles. The method is as follows: The patient should be required to present himself with the bladder full. It is best to have a small amount of urine passed for comparison. The patient is then made to flex his body at the hips by bending over the back of a chair. The index-finger of either hand, well lubricated with vaselin, is carefully passed into the rectum. It is better to be very gentle with the first examination, lest what is only unpleasant may come to be looked upon as an ordeal. The first effort of the finger in the rectum is to locate the posterior border of the prostate; this having been accomplished, it is pushed gently upward and outward and an attempt made to map out the body of the vesicle. It is not always easy, unless it be moderately distended, to distinguish the outlines of a healthy vesicle. In disease, distention of the sac and thickening of its coats make the border readily definable, unless there be a perivesicular exudation. The finger being inserted to the limit, firm pressure is made with the tip on the body of the vesicle, and it is then gently stripped, in the direction of the ejaculatory duct. This process is repeated three or four times. The pathological secretion is thus forced on into the prostatic urethra. So sometimes in cases of extreme distention stripping will cause the vesicular contents to flow from the meatus. The patient is not allowed to empty the bladder. If stripping has been successful, the fluid voided will contain masses of altered semen or inflammatory exudate, which may take the form of cylinders about the size of a knitting-needle, globules, coarse and fine flakes, an amorphous sediment, or there may be only a milky appearance. In some cases a perfect cast of the vesicle has been brought away.

Care must be taken not to use too much force in these treatments; for sometimes an acute inflammation of the vesicle and less frequently of the corresponding epididymis is induced. The writer had the misfortune in one case to cause a moderately acute vesiculitis and subacute epididymitis, either by using too much force or making the interval too short. Then, too, in very chronic cases, care must be taken lest serious hemorrhage be induced. Diminishing tenderness is largely the guide as to interval between treatments. If judgment be exercised as to frequency and force, there should be a steady diminution of tenderness and amount of material expressed from the vesicle; and the inflammatory exudate should be gradually absorbed.

The stripping process promotes a good result, first, by relieving distention of the sac by the pathological material, and thus allowing the muscular coats to regain their tonicity; secondly, where exudation is present, it induces softening and absorption of the exudate.

In most cases stripping is the only treatment required. In some cases, though, on account of frequent nocturnal emissions, it is necessary to give potassium bromide, fifteen grains three times daily, and phenalgine five grains at bedtime. If the patient be debilitated and anemic, tonics such as iron, nux vomica, and cod-liver oil do much good. Fuller insists that in chronic cases cod-liver oil assists greatly in promoting absorption. In all cases where vesical fermentation coexists, and in some cases where the expulsive force of the bladder seems sluggish, the intravesical irrigation of 1:30,000 to 1:20,000 hydrarg. bichlor. solution immediately after squeezing the vesicle may be of value.

The active treatment of vesiculitis covers from six weeks to six months in the milder cases, to six to twelve months in the more severe and chronic. The longer the case has gone without treatment, the greater will be the time required for relief. Stripping should not be undertaken too soon after an acute attack, nor continued in any case if it produces increased tenderness.

In tubercular vesiculitis, stripping almost without exception does harm. In this form of the disease, tonics and antitubercular remedies, in the same manner as when the tubercular process has attacked the other organs, is the treatment indicated.

THE PHYSIOLOGICAL TEST—TALKS WITH MEDICAL MEN.

BY T. MABEM, F.C.S., GLASGOW, SCOTLAND.

STROPHANTHUS.

It has recently been my privilege to come into frequent contact with medical men, and in the course of conversation I have had daily experience of the truth of the familiar saying: "Doctors differ." The gentlemen whose opinions I propose to quote belong to every class in the profession, from the university professors and world-renowned physicians and surgeons to modest general practitioners, but no matter what their position may be in the social scale or in professional rank, the same story holds good of all, namely, the extraordinary diversity of opinion that exists regarding the therapeutic value of some of the most potent drugs of the Pharmacopœia, and even of many familiar drugs which are not so potent. It has proved an exceedingly interesting study to me to hear and discuss these various opinions, the repetition of which may possibly be of some value to others placed in similar circumstances; and, indeed, there are few pharmacists who come into contact with medical men who are not at one time or another required to explain why it is that certain preparations vary so much in therapeutic activity.

It is hardly worth while to waste time with those medical men, for example, who refuse to prescribe morphine because it has not the astringent power which, they allege, opium possesses; or their brethren who will have none of opium because of its nauseating tendency, and who regard morphine alone as worthy of attention; or with the men who decline to prescribe tincture of cinchona, but who use quinine freely, or the others who consider the cinchona alkaloid vastly inferior to the preparations of the entire drug. We do not propose to discuss such differences of opinion as these, for however much we may marvel at them, we nevertheless realize that the differences are in name only and not in reality. To try and reconcile them is a quite unnecessary task, and life is too short to waste in useless logomachy.

The differences to which I allude belong to another category altogether, as, for example, where a particular drug is regarded by one practitioner with such aversion that neither in its crude form nor in its active principles does he use it at any time, whereas this same drug is regarded by another practitioner as the very one that in certain circumstances he would not be without. That there are just such drugs and such medical men we know very well, and the problem is, how are we to account for these differences of opinion? Can they be explained on any rational hypothesis? And is it possible to reconcile these two sets of medical men so that they may see eye to eye with regard to some of the most important armamentaria of their profession? To these questions I venture to return a direct reply in the affirmative. We can account in a perfectly satisfactory way for these differences of opinion, and having done this, we shall be in a fair way to reconcile the opposing schools of thought.

In order to reduce the discussion to a concrete and thus more easily intelligible form, I propose to deal with a few of the principal drugs regarding the virtues of which medical men are in such sharp antagonism, and for the first I select strophanthus, a drug around which discussion has been carried on to a greater or less extent for many years.

The history of strophanthus as a therapeutic agent may be briefly summarized. The drug was first made known to civilization rather more than a quarter of a century ago by Dr. T. R. Fraser, of Edinburgh, but for a long time it was neglected on account of the difficulty of procuring the seeds. This difficulty at last appeared to be solved, and in 1885 strophanthus was formally introduced, by Professor Fraser and Dr., now Professor, Ralph Stockman, to the medical profession at the meeting of the British Medical Association in that year. Almost at once the drug assumed a commanding position as a remedy for a certain class of heart affections, and for a time it fulfilled every expec-

tation. Unfortunately, however, from a cause which will presently be explained, it has been deposed from its high position, and now in the opinion of many medical men it makes a very poor second to digitalis.

With the view of introducing discussion on the physiological test, I frequently put the question, "What is your opinion of strophanthus?" and the answers I receive are so contradictory that it would really be amusing, were it not, at this time of day, sad to find opinions so diverse. Here, for example, is how one gentleman recently replied: "My opinion of strophanthus is decidedly a high one. I would not exchange strophanthus for any drug in the Pharmacopœia, and I could give you numerous cases in support of my view. I recall one, a lady who came to me literally in the fear of death from heart disease. She had already been in the hands of two medical men, both of whom, I could gather, had treated her with digitalis, with no improvement. I prescribed strophanthus, and the result was simply marvelous. The patient recovered her health and spirits, and since then she has borne a child, and both of them are perfectly well and strong. I would not be without strophanthus on any account." I ventured to suggest that not every doctor was so enthusiastic in its praise, but he assured me he had never had occasion to think differently. I further remarked that he owed a good deal to the pharmacist who dispensed his prescriptions, but threw out the hint that if some day he did not get the good results he was expecting he must not think that the pharmacist had suddenly become careless or indifferent, and in order to avoid the possibility of any such mischance his obvious duty was to specify "physiologically tested" on his prescriptions.

Within a couple of days I had another conversation, this time with a consulting physician who had an extensive practice, and this is how he spoke: "Strophanthus? I never use it; have not prescribed it for years. No drug has ever been such a disappointment to me. At one time I got good results, but latterly the effect was so uncertain that I was compelled to give it up entirely. Strophanthus went up like a rocket, but it came down almost as rapidly, so far as I am concerned, and now I rely solely on digitalis. You need not speak about strophanthus to me." Such was the testimony of number two, and I did not leave him till I had convinced him that he might give the drug still another trial.

The only other opinion it is necessary to quote is that of an eminent professor of materia medica, a gentleman who had a good deal to do with the drug when it was introduced fifteen years ago. Replying to my question as to what he now thought of strophanthus, he said he was quite satisfied with it. "But," I asked, "don't you find it very variable?" "Yes, it does vary very much, but I am careful to use

only what I have ascertained to be active." That was all very well for him, I said, but how many men or firms were in the position of being able to determine its activity? He admitted the fairness of the question, and went on to tell how, many years ago, he was asked by an eminent firm of manufacturing chemists, whom he named, to test the activity of a very large parcel of seeds. These turned out to be of such inferior quality that they could not be used. "This means," I said, "that the firm you speak of were unable to satisfy themselves by a chemical estimation, and therefore they applied to you as a pharmacologist." "That is so," my friend replied; "there is no denying the fact that chemical analysis is not sufficient for a drug like strophanthus, and we must have recourse to the physiological test. Without this test it is not possible to be certain that the characteristic effect will be obtained from any given sample of seeds." Questioned further as to the pharmacognosy of the drug, he stated that in his opinion the variation in the activity of the seeds was in all probability due to the fact that the follicles were plucked before they were ripe, and it was extremely difficult, if not impossible, to say by any physical test whether the seeds that came into the market were or were not fully matured.

This brief account of my conversation with these three medical men furnishes a good view not only of the antagonistic opinions held regarding strophanthus, but supplies the reason why this antagonism exists. Much of the drug that comes into the market is practically inert, and since all kinds of seeds are made up into tincture, is it to be wondered at that the opinions regarding the drug should be so diverse? The experience of my first informant has so far been a fortunate one, and he was enthusiastic; the experience of the second had been variable and disappointing, and he had given up the drug in disgust; while the third, knowing the pitfalls of the situation and being able to select and test the seeds for himself—he being attached to a large hospital and in charge of wards therein—was in the position of guaranteeing that the drug would do the work expected of it. It is admitted that strophanthin and the other active principles hitherto isolated do not supply the place of the entire drug, and consequently estimations of its value, based on the known percentages of these, are not only useless, but may be distinctly harmful. Our best authorities are as one on this point, that the only entirely satisfactory method of assaying the therapeutic value of strophanthus is the physiological test.

Having once realized this the duty of the prescriber is plain; but is there not reason to suspect that sometimes he shirks his responsibility and hands it over to the pharmacist? I think there is; nay, I

am certain of it. Talking one day with an eminent consultant, other than those I have already referred to, I was trying to impress upon him the desirability of specifying on his presciptions that he wished physiologically tested preparations to be used. His reply was in one sense disappointing, and in another highly gratifying. "No," he said, "I will not specify anything on my prescriptions; this I leave entirely to the chemist. I naturally expect that a patient who gets a prescription from me will take it to a first-class man to be made up; if they don't, that is their lookout. If they ask me to recommend a chemist I say, go to Mr. So-and-so. I have sufficient confidence in him to know that he will supply only the very best drugs, and therefore if you have any improvements in drugs to talk about go to him, and don't take up my time, for I do not want to hear anything about them."

This splendid testimony accords with what I believe is the general feeling among the best medical men regarding the best pharmacists, but it also shows what a tremendous responsibility rests with the latter. Do they sufficiently realize it? Frequently, I regret to say, they do not. On the one hand they are sometimes so very conscientious that they are afraid to use the physiologically tested preparations unless they are specially prescribed, for fear they should turn out to be much stronger than the medical man expects, an unconscious admission of the value of the test. On the other hand, they too often consider that they have done their whole duty if they adhere to the *litera scripta* of the Pharmacopœia. Said one to me, for example, quite recently, "Is it not sufficient if I buy the best strophanthus seeds and make up my tincture according to the Pharmacopœia?" "Yes," I replied, "legally it is sufficient; ethically, it is not. If you consider yourself a mere tradesman you have done your duty, but if you consider yourself a scientific pharmacist you have not done your duty. Any porter can chop up strophanthus, pack it in a percolator, run spirit through it, and make an official tincture, but you would consider it an insult if any one called you a porter. You are more than a tradesman, and you are expected to exercise your skilled and trained judgment in the preparation of your galenicals. If you know that research has proved that the official processes fail to give preparations on which absolute reliance can be placed by medical men, it is your solemn duty to supplement those processes in order that there may be no failure so far as you are concerned. The situation is much too serious to be dismissed with a wave of the hand, and I want to impress upon you the fact that the true conception of your duty will often lead you far beyond the details of a pharmacopœial process. Moreover, should it happen, as in the case of strophanthus and many other drugs it does happen, that the guarantee of the activity of these drugs can only be obtained by

special means, such as not one pharmacist in five thousand can ever employ, it is unquestionably your duty to take advantage of such means as the energy and skill of others bring within your reach; in other words, and to put the point in a commercial form, you cannot test drugs physiologically yourself, therefore you ought to buy only such preparations as have been physiologically tested by those in a position to make that test."

It is only by thus discharging our duty that the trust reposed in pharmacists by medical men can be adequately rewarded. This confidence deserves to be recognized by the most strenuous efforts on our part. It can only be maintained by our continuing to deserve it, by always and in every case supplying what we know to be the most therapeutically active preparations, even though to procure these we may have to go far beyond the mechanical directions of the pharmacopœias.

ALIENISTS, neurologists, and all interested, are cordially invited to attend and read papers or engage in the discussions of the Section of Neurology and Psychology, Pan-American Congress, at the coming Havana Congress, which holds from February 4 to 8. The following have thus far been offered from this country: Prof. D. R. Brower, Chicago, on "Cerebral Neurasthenia; Observations on Diagnosis and Treatment;" Dr. T. D. Crothers, Hartford, Conn., on "Morphinism and Crime;" Dr. Albert S. Ashmead, New York City, on "Possible Cause of Insanity Among Americans in the Orient;" Dr. C. H. Hughes on "Autopsychorhythmia, or the Repetition Psychoneurosis; an Inquiry into a Condition of Morbid Rhythmic Cerebral Automatism and its Rhythmic Forms of Mental Alienation." A paper has been promised by Dr. H. N. Moyer, Chicago.

A FRENCH investigator has come to the conclusion that the brains of military and naval men give out most quickly. He states that out of every 100,000 men of the army or naval professions 199 are hopeless lunatics. Of the so-called liberal professions, artists are the first to succumb to the brain strain, next the lawyers, followed at some distance by doctors, clergy, literary men, and civil servants. Striking an average of this group, 177 go mad to each 100,000. Domestic servants and laborers are not far behind; the professional men supply 155 out of each 100,000 as candidates for the lunatic asylum. Next, but with a long interval, come the mechanics, of whom only 66 in each 100,000 lose their wits. Wonderful to relate, commercial men retain their sanity the best of the whole group, as they send only 42 out of 100,000 to the madhouse.

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EDITED BY FREDERICK W. MANN, M.D.

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EDITORIAL ARTICLES.

THE ABORTION OF PNEUMONIA.

Can a pneumonia be aborted? It would seem that time and experience are rapidly making certain a conviction that has been long held in a vague way by many clinical observers. Opinions have, without doubt, differed. One author says of bronchopneumonia: "The disease cannot be cut short by any means at the present time." Another, in Allbutt's System of Medicine, speaking of aborting the attack, says: "There is nothing absurd in supposing that this may one day be done." So long ago as 1861 so careful a clinical observer as Flint thought that quinine administered in doses of thirty grains a day rendered the disease abortive. Bristowe also held that the infecting microbe could be rendered incapable of carrying out its ordinary processes in two days.

The progress of bacteriology has also encouraged a belief that the microorganism is one whose vitality is easily affected. In nearly every medium in which it grows, the formation of formic acid soon serves to check its development. In all culture media the organism ceases to be pathogenic in a few days. The organism, in fact, can resist no unfavorable condition when grown artificially. Its comparative vitality is much less than the organism of diphtheria. This should certainly lend color to the suggestion that its activity can be easily restricted provided the appropriate measures be employed. From the bacteriological standpoint pneumonia undoubtedly ought to be capable of abortion.

In the December number of *Pediatrics*, Dr. Illoway commits himself very decidedly to the opinion that pneumonia in infants can be aborted. He relates a series of cases in which abortion of the pneumonic process manifestly took place. The remedies he employed were aconite, veratrum viride, and digitalis. He believes his best results to have been achieved by means of veratrum viride and

aconite, and considers these to constitute a therepeutic measure almost at all times worthy of trial.

The value of these remedies has, of course, long been extolled, but it may not be that they are the sole agents that may serve this useful purpose. Smarkovsky, of Moscow, claims that calomel possesses the same capability of jugulating a croupous pneumonia and causing its abortion. It is also possible that the action of quinine on the heart centers may be the means of modifying the preliminary conditions which actually culminate in the pneumonic process.

EDITORIAL NOTES.

The Case of Widows.

A writer in the *Philistine* says that widows all have good appetites and sleep well at night; they weep, but smile through their tears, and beneath their weeds and other semblances of grief their hearts beat warm and their hopes are high. This is a valuable generalization, but it is with the physician to say how much it is supported by experience. Marriage must appear to most doctors a very successful institution, perhaps the most successful as human institutions go. What do they expect widows to do? Do they want to re-establish the suttee down in East Aurora because they don't appreciate the courageous cheerfulness that the widow so often exemplifies in spite of all her misfortunes?

Cure for Tuberculosis.

The last "cure" for consumption comes from Berlin. It takes its name from its alleged discoverer, Dr. Hoff. There is nothing new about it except in so far as a combination of old remedies may be new. It is a combination of arsenious acid, cinnamylic acid, carbonate of potash, brandy, and opium. The combination may be excellent, but nevertheless the bacillus tuberculosis will find nothing therein which will specially inhibit its activity, and in a short time the "cure" will be relegated to that limbo of extinct and useless ideas from whence there is no resurrection.

"Beery-Beery."

The medical health officers of England are now devoting their attention not so much to water contamination as to beer adulteration. Numerous cases of peripheral neuritis have developed, and the cause has been found to be in the arsenical adulteration of beer. The resemblance of this neuritis to another form has suggested the name "Beery-Beery" as descriptive of it.

ITEMS AND NOTES.

THE famine in India is nearly at an end.

PINK-EYE is reported to be epidemic in Chicago.

TYPHOID FEVER has become epidemic in Fort Collins, Colorado.

MARYLAND is the only State which does not have a pharmacy law.

ANOTHER death from plague has been reported from San Francisco.

THE New York State Hospital is now open for the reception of patients.

DR. WM. OSLER has been elected president of the Laennec Society at Johns Hopkins Hospital.

OWING to the prevalence of smallpox, compulsory vaccination has been ordered in Butte, Montana.

A CHICAGO lodging-house keeper was recently fined $100 for transgressing the law by overcrowding.

FOURTEEN medical men have recently, according to *The Lancet*, been elected to the mayoral chair in England and Wales.

THE annual meeting of the Western Surgical and Gynecological Association was held in Minneapolis, Minn., December 27 and 28.

AN examination for physicians, midwives, and other practitioners was held in Chicago by the State Board of Health December 9, 10, and 11.

THE Illinois Board of Commissioners of Public Charities favored the location of a site for the Illinois colony of epileptics in Ogle county.

THE University of Pennsylvania has recently received the sum of $4000 for the equipment of a physical laboratory; also a fund of $550 to be devoted to prizes.

THE Samuel D. Gross prize of $1000 will be awarded on October 1, 1901, no essay that was deemed worthy of the prize having been received on January 1, 1900.

IT has been decided by the Faculté de Médecine of Paris to establish a school for the study of tropical diseases, with special chairs of bacteriology and parasitology.

THE president of the Chicago diploma mill, which is known as the Metropolitan Medical College, was sentenced on December 15 to serve one year in the Du Page county jail and to pay a fine of $500.

THE minister of public instruction in France has notified the high schools that antialcohol instruction is to have a place on the programme of those institutions on a par with arithmetic or grammar.

PROFESSOR CELLI, before opening his course of lectures in the Rome Institute of Hygiene, unveiled a bust of Tommasi-Crudeli, his predecessor in the chair, which he has had placed in his lecture-room.

THE New Jersey State Board of Health is considering the advisability of disinfecting the books used in circulating libraries of that State, and has decided that they must be fumigated at regular intervals.

IN Southern California a syndicate has been formed for the purpose of building a sanatorium in Strawberry Valley, to be known as the Idylwild Sanatorium, for the care of invalids, particularly of the tuberculous class.

THE people of Burlington, N. J., propose to secure by popular subscription funds for the purchase of the old colonial mansion in which the late Dr. Frederick Ganutt lived, and its conversion into a memorial hospital.

DR. CHARLES W. ALLEN, professor of dermatology, New York Post-Graduate School, delivered an interesting and instructive clinical lecture on dermatology to the students of the Detroit College of Medicine December 17.

DR. THOMAS D. CROTHERS, of Hartford, has been appointed professor of diseases of the brain and nervous system, with especial reference to the effects of alcoholic and drug poisons, at the New York School of Clinical Medicine.

A CONSOLIDATION of two important medical colleges in St. Louis under the name of the Marion Sims-Beaumont College of Medicine, which was effected November 22, is said to be preliminary to affiliation with the St. Louis University as its medical department.

THE Johns Hopkins Hospital will be defendant in a suit of damages for $5000 which has been brought against that institution by two individuals who claim to have received personal injuries through a live electric wire while walking along the street in front of the hospital.

A PLAGUE laboratory has been established in the Hygienic Institute of Munich under the direction of the head of the Institute, Prof. Hans Buchner, who has named Dr. Hahn his deputy. The laboratory is intended for the examination and diagnosis of suspicious cases of plague.

Dr. WM. OSLER, of Baltimore, has presented to the medical and chirurgical faculty a life-size bust crayon portrait of Dr. Chas. Frederick Wiesenthal, the physician of Frederick the Great, who settled in that city in 1755, and who is regarded as the father of the medical profession of Baltimore.

ACCORDING to an exchange, the Italian physicians are endeavoring to have their parliament pass a bill restricting the issuance of licenses to foreigners holding diplomas from countries granting a like privilege to Italy. A clause, however, is attached thereto which practically will shut out all foreign practitioners.

ACCORDING to an exchange, a physician in a Colorado town is serving a sentence in the county jail for manslaughter. He is a "trusty," and is allowed to go at will through the town, where he enjoys a considerable practice. At the same time he is acting sheriff, the county sheriff having gone away for a time, leaving to him the care of the keys of the jail.

DR. DE MOURA, of Brazil, recently contributed a paper to the Berlin Medical Society on the result of his researches and observations on the cure of leprosy by the inoculation of rattlesnake poison. He claims that if the patient be suffering from uncomplicated leprosy the treatment is followed by excellent results; and Professor Lewin, while he does not admit that the venom is of the nature of an antidote, acknowledges that it produced at any rate a temporary change for the better, and is, therefore, worthy of further investigation.

THE case of a wrongly convicted physician is the common talk in medical circles of Servia. Dr. Mandelbaum, a medical man practicing in a town of Servia, was accused two years previously of having killed his wife from jealousy, and he was condemned to twenty years' imprisonment. A few weeks since Dr. Mandelbaum's son, himself a medical student, obtained an audience of King Alexander, and begged the king to authorize a fresh trial. The king granted his request, and in the course of the new trial it was made manifest that the murderer was the doctor's valet, who had killed his mistress after outraging her, he having since confessed to the crime. Dr. Mandelbaum has been liberated, and has resumed practice in Belgrade.

Professor Celli, who is a member of the Italian Parliament, will, it is said, present to the Chamber a drastic proposal for the suppression and prevention of malaria in Italy. He proposes to make punishable by law the neglect of landowners and all employers of labor to provide in malarial districts every means of fighting the fever. Signori Boselli and Sonnino have submitted to the President of the Chamber a proposal that the Minister of Finance be empowered to purchase a supply of quinine of the purest quality, which is to be sold to the public at a trifle over cost price, the margin being intended to protect the government against loss from fluctuations in the price of the raw material. It is calculated that the very slight profit on the sale would average $200,000 yearly, which would be devoted to the extermination of malaria. This proposal, it is said, is likely to meet with formidable opposition.

The German department of the interior, says the *Medical Record*, has issued instructions for compulsory precautions against the spread of tuberculosis in the empire. The orders provide that physicians having patients with pulmonary or laryngeal tuberculosis shall give written notice to the police as soon as the diagnosis has been made; that immediately after the death of a person from tuberculosis the deceased's room and effects must be thoroughly disinfected; that professional women who lay out the dead must report at once in writing to the police anthorities whether the disease was of the lungs or larynx; and that keepers of hotels, lodging-houses, asylums, or other public institutions shall report immediately the appearance of the disease in the establishments under their control. Non-compliance with the regulations is subject to a fine of 150 marks or six weeks' imprisonment.

It was in the year 1754 that the degree of M.D. was first conferred on a woman in Germany. The *Vossische Zeitung* of July 18, 1754, mentions that the medical faculty of the University of Halle had granted the degree of M.D. to Mrs. Dorothea Christiana Erxlebin after she had passed the examination with distinction. The title of her "dissertation," which, according to the custom of that time, was written in Latin, was "Quod nimis cito et jucunde curare sæpe fiat causa minus tutæ curationis." This lady had been an apprentice of her father, a well known medical practitioner at Quedlinburg, and as she could not matriculate at a university she learned medicine by reading only. By a royal decree of Frederick the Great she was then recommended to the Faculty of Halle as a candidate for graduation, but she presented herself only after the death of her husband. She also published an essay on the utility of learning for the female sex.

NEW PUBLICATIONS.

TEXT-BOOK OF PATHOGENIC BACTERIA.

A new edition of this excellent work has been called for, through the extensive progress which has been made in the subject of which it treats. The sociological relations of bacteriology have been so multiform that it is impossible for any manual of bacteriology to deal with the various aspects of the problems. The present work restricts itself entirely to a consideration of pathogenic bacteria, and under each caption will be found all such information as is known regarding the specific cause of the disease of which it treats. The philosophy of the subject is admirable and concisely condensed in the chapters upon Infection and Immunity. The work is well illustrated, and the book constitutes one of the most convenient manuals dealing with the intrinsic pathology of disease.

A Text-book upon the Pathogenic Bacteria. For Students of Medicine and Physicians. By Joseph McFarland, M.D., Professor of Pathology in the Medico-Chirurgical College, Philadelphia, etc. With 142 Illustrations. Third Edition, Revised and Enlarged. Philadelphia: W. B. Saunders & Co., 1900.

PATHOLOGY AND MORBID ANATOMY.

A new edition of this well known text-book shows that it has been almost entirely rewritten and several new sections added. A large number of new illustrations also increase the value of the volume. The work constitutes one of the most complete manuals of pathology at present accessible to the student of medicine. Dr. Walton Martin, the American editor, has added a very valuable chapter on Malaria and the Blood. The illustrations are mostly from photographs, and possess the advantages of realism.

Pathology and Morbid Anatomy. By T. Henry Green, M.D., F.R.C.P. Revised and Enlarged by H. Montague Murray, M.D., F.R.C.P. Ninth American Revised from the Ninth English Edition, by Walton Martin, Ph.B., M.D. With Four Colored Plates and 339 Illustrations. Philadelphia and New York: Lea Brothers & Co., 1900.

OBSTETRICS.

The pocket text-book series has received a valuable addition in a concentrated treatise on the science and art of obstetrics. Special effort has been made to combine conciseness with clearness, and the subject-matter is comprised within a convenient number of pages. The large amount of information imparted in a small amount of space will commend the work to the attention of the medical student.

Obstetrics. A Manual for Students and Practitioners. By David James Evans, M.D., Lecturer on Obstetrics and Diseases of Infancy, McGill University, Montreal, Canada. Series Edited by Bern B. Gallaudet, M.D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, Columbia University, New York. Illustrated with One Hundred and Forty-nine Engravings. Philadelphia and New York: Lea Brothers & Co.

SEXUAL DEBILITY.

The writer of this book has taken an old theme and commented upon it in the light of modern experience. He has attacked many one-sided beliefs, especially those connected with spermatorrhea. The volume contains much that is interesting to the genito-urinary surgeon, and much that is of value to the psychiatrist. The author has written in good faith, and an honest expression of views is always valuable.

Sexual Debility in Man. By F. R. Sturgis, M.D., etc. New York: E. B. Treat & Co., 1900.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Treatment of Prostatic Hypertrophy.

Ramon Guiteras (*New York Medical Journal*, Dec. 8, 1900) says that he is personally in the habit of performing prostatectomy by what he calls the rectovesical method, although no part of the operation proper is performed by the rectum, the fingers simply being inserted into it to exert direct counter-pressure and guide the operating finger which is working through the bladder. The steps of the operation are, briefly, as follows: Suprapubic cystotomy is performed, after which retention sutures are passed through the bladder wall on each side of the incision. Careful rectovesical palpation is then made, two fingers of the left hand being in the rectum, while the right forefinger is in the bladder, and a visual examination is made by means of an electric light inserted into the bladder. A pair of scissors is inserted into the bladder, the closed blades being pressed against its floor in the region of the neck in the median line until the blades are felt depressing the prostate against the two fingers of the left hand in the rectum, which are in turn pressing upon the gland in the median line from below, showing exactly whether they are in the right position or not. The blades of the scissors are opened, and a cut is made through the bladder tissue covering the gland in a line corresponding to the space between the two fingers in the rectum. The forefinger of the right hand is then inserted into this cut through the bladder, and gradually works its way through the capsule and the gland. The two fingers in the rectum feel the one in the bladder working its way between the capsule and the gland, and they start counter-pressure while the enucleation is being performed. The finger-tip under the capsule first sweeps to one side and pulls out one lateral lobe, then to the other side and enucleates the other, and finally removes the middle lobe; or it first works its way backward under the base of the middle lobe, which is enucleated with a dissecting rotary movement, and then proceeds to enucleate the two lateral lobes. The gland having been removed, there is always free hemorrhage, and very hot water should be injected for two or three minutes into the bladder suprapubically, during which time the surgeon again washes his hands. He then passes a grooved sound, preferably a lithotomy guide, through the urethra into the bladder, and having brought the patient into the

lithotomy posture, he rapidly cuts through the membranous urethra and pushes a large perineal drainage-tube into the bladder, which he fastens to one side of the perineal incision. The finishing steps of the operation are to put two catheters into the bladder suprapubically with a gauze drain packed down beside them into the cavity made by the removal of the prostate, fasten them into the skin of the bladder wall, and then sew the bladder wall up to the drain. The surgeon then closes the abdominal wall, including fascia, muscle, and skin, as far as the drain. The floor of the prostatic urethra should be cut through from above downward before the perineal tube is left permanently in place, to prevent the formation of a pocket, which would retard the cure.

Carcinoma of the Appendix Vermiformis.

Hurdon (*Johns Hopkins Hospital Bulletin*, July–August, 1900) describes a case of primary and a case of secondary carcinoma of the appendix. The first was discovered in the course of an operation for retroflexion of the uterus. The appendix was in the pelvis and enveloped in dense vascular adhesions. The distal end was distended, but in the middle third the lumen was almost obliterated by firm new growth; a concretion was present. The new growth was found to consist of epithelial proliferation and infiltration in the form of nests and cylindrical processes, originating in Lieberkuhn's glands. Only three cases of carcinoma of the appendix have been reported in which a microscopical examination was made—one in a woman of fifty who died of heart disease closely resembling the one here recorded; in the other two the disease involved the cæcum secondarily, and communicated with the surface of the abdomen by sinuses. A case has been recorded by Gifford where a sarcomatous growth surrounded a concretion in the appendix. The case of secondary carcinoma was discovered during an operation for ovarian carcinoma; there was also a growth at the pylorus, and the surfaces of the broad ligament were studded with small nodules. The muscular and submucous layers of the appendix were infiltrated with new growth; the outer third was distended and contained a concretion.

Abdominal Relaxation a Probable Factor in the Pathogenesis of Gall-stones.

J. S. Meyer (*St. Louis Medical Review*, Dec. 5, 1900) says that visceral ptosis consequent upon abdominal relaxation and other causes results in stagnation of the bile through interfering with its normal expulsion.

The inactivity of the gall-bladder and stagnation of the bile predis pose the mucous membrane to infection.

This infection may be either hematogenic, through the portal system, etc., or an ascending infection from the duodenum.

This results in a catarrhal inflammation of the mucous membrane, an albuminous exudate, and the exfoliation of epithelial cells. (According to Naunyn, the addition of albumin to the bile produces a copious precipitation of the stone-forming elements.)

This precipitate, with clumped bacteria and degenerated cell masses as nuclei, forms biliary calculi.

Bronchial Disease Not Invariably a Contraindication for Ether Anesthesia in Abdominal Surgery.

Thaddeus A. Reamy (*Medical News*, Nov. 13, 1900) says that to avoid unpleasant complications and to secure the desired results, the following points are essential: (1) Proper preparation of the patient. (2) Preparation of the operating-room, with a temperature of 98° to 100° F. (3) Pure ether. (4) A proper inhaler. (5) The proper methods of administration. (6) Due caution against exposure in removing the patient from the operating-room to her own room. The temperature of her own room should not be below 80° to 90° F. for several hours after the operation. (7) Proper care of the patient during convalescence. She should be permitted to drink large quantities of water, and should keep the bowels freely open.

MEDICINE.

The Action of Quinine on the Plasmodium Malariæ.

Monaco and Panachi (*Arch. Italien de Biol.*, xxxii) have recently made a very interesting study of the effect of quinine on the plasmodium malariæ. Their method of procedure was the observing of life changes of the parasite in a drop of malarial blood and the influence of the isotonic salt solution, and the effect of various quinine solutions in the different life periods of the plasmodium. Their studies embraced the tertiary and quartan types. The life of the malarial parasite, according to their observations, is divided into four stages: (1) young forms; (2) adults (occupying nearly two-fifths of the blood-corpuscle); (3) the ripe forms (occupying the whole corpuscle); (4) the sporulating forms. A drop of 1:1500 quinine bisulphate solution (approximately corresponding to a dose of forty-five grains for a man of average weight) was brought in contact with the blood containing

the youngest forms, producing a contraction of the parasite with trembling of the pseudopods and a consequent centering of the pigment granules. These pigment granules after a short time return to the periphery, and the parasite expands to its former dimensions and behaves as before the action of the quinine. The same solution produces on the adult plasmodium a contraction, a central collection of the pigment, a retraction of the pseudopods, which seemed to produce such an increase of internal dimensions as to shoot it out of the corpuscle with great suddenness. Like changes were noticed in the ripe forms, except that the parasite did not pass out of the corpuscle but became very shrunken, the granules escaping into the blood-serum. Smaller doses of quinine seemed to act as a stimulant to the parasite, and quite large doses seemed to paralyze it, but did not cause it to pass out of the corpuscle. Their conclusions are that quinine operates for good by casting the parasite out of its favorable host (the corpuscle) into the serum, where its growth is inhibited. Therefore they conclude that the administration of too large doses of quinine is impracticable when it presents this favorable outcome. It was observed that the plasmodia taken from the blood at various stages of malaria were most susceptible to the action of quinine when obtained just before the height of the fever, and from that time until the middle of the apyretic interval the parasites became more and more resistant. It would thus seem that the empirical method of giving the quinine just before the expected attack is founded upon correct scientific principles.

A Comparative Study of the Biological Characters and Pathogenesis of Bacillus X (Sternberg), Bacillus Icteroides (Sanarelli), and the Hog-cholera Bacillus (Salmon and Smith).

The December number of the *Journal of Experimental Medicine* contains an article on this subject by W. Reed and J. Carroll. From the experiments made by these observers, the following conclusions were reached:

1. Bacillus X (Sternberg) belongs to the colon group.

2. Bacillus icteroides (Sanarelli) is a member of the hog cholera group.

3. The various channels of infection, the duration of the disease, and the gross and microscopical lesions in mice, guinea-pigs, and rabbits, are the same for bacillus icteroides and the hog-cholera bacillus.

4. The clinical symptoms and the lesions observed in dogs inocu-

lated intravenously with bacillus icteroides are reproduced in these animals by infection with the hog-cholera bacillus.

5. Bacillus icteroides when fed to the domestic pig causes fatal infection, accompanied by diphtheritic, necrotic, and ulcerative lesions in the digestive tract, such as are seen in hogs when infected with the hog-cholera bacillus.

6. This disease may be acquired by exposing swine in pens already infected with bacillus icteroides, or by feeding them with the viscera of infected pigs.

7. Guinea-pigs may be immunized with sterilized cultures of bacillus icteroides from a fatal dose of the hog-cholera bacillus, and *vice versa*.

8. Rabbits may be rendered immune by gradually increasing doses of a living culture of bacillus icteroides of weak virulence from a fatal dose of a virulent culture of the hog-cholera bacillus.

9. The sera of animals immunized with bacillus icteroides and with the hog-cholera bacillus, respectively, show a marked reciprocal agglutinative reaction.

10. While the blood of yellow fever practically does not exercise an agglutinative reaction upon bacillus icteroides, the blood of hog-cholera agglutinates this bacillus in a much more marked degree, thus pointing, the authors think, to the closer etiological relationship of this bacillus to hog-cholera than to yellow fever.

On the Question of the Utility of Veils as Means of Preventing Infection Through the Lungs.

Tswikis (*Boln. Gaz. Botk.; International Medical Magazine*, December, 1900) reports a few interesting experiments which prove conclusively that veils or masks cannot prevent infection. These experiments were suggested to the author by the recommendation of Flugge, Sticker, Buchner, and Gartner to wear veils when attending a patient suffering from the plague.

Experiment 1: In a sterile room were placed on a table five Petri dishes with agar covered with a piece of thick, soft gauze, the meshes of which were 0.5–0.8 millimeter. The gauze rested on tripods 5–15 centimeters high. A bouillon culture of mouse-septicemia was sprayed into the room for five minutes. At the expiration of twenty-five minutes the Petri dishes were removed and placed in the incubator. Numerous colonies of the organism were found in all, not less than in the control plate.

Experiment 2: Heavy meshed silk was used. One of the plates was covered with a fine wire netting. Distance between the cover-

ing and the Petri dishes five centimeters. Same culture and method employed. All the plates became infected.

In the third experiment a thick layer of absorbent cotton was used, with the same results. The author suggests that the best means of avoiding infection would be to keep the air constantly dry and changing.

Trigger-finger.

Tilmann (*Berl. Klin. Woch.*, Oct. 22, 1900) reviews the literature on the subject, and reports five cases occurring in his own practice. In each one of these he noticed a thickening of some part of the flexor tendons, and always on those fingers which would be most used in the act of performing unusual manual labor, to which cause Tilmann ascribes the occurrence of the trouble. From cadaveric experiments he reaches the conclusion that this local thickening is produced by a bruising of the tendon between a hard substance which is being handled (*e.g.*, a rifle) and the transverse long ridges which appear on the palmar aspect of the heads of the metacarpal bones.

The treatment, in recent cases, consists in an immobilization of the affected finger upon an appropriate splint, in local applications of tincture of iodine, and massage. In older and less painful cases we may, by means of frequent protracted passive manipulation, hope to distend the tendon sheath so as to allow of ready passage by the tendinous thickening, while in obstinate cases nothing short of surgical means will secure permanent relief.

Some have tried slitting the tendon sheath, and thus obtained favorable results. Tilmann prefers to split the tendon itself and peel out from the central portion the cicatricial node which interferes with normal mobility, in this manner securing immediate and most satisfactory results.

Arteriosclerosis.

J. W. Runsberg (*British Medical Journal*, Dec. 1, 1900) says that, as regards the pathology of the condition, the heart is the principal seat of the sclerosis. The cardiac symptoms are, however, of somewhat contrary significance, one set arising from sclerosis of the coronary arteries, the other caused by disorganization of heart functions consequent upon a general sclerosis in the arterial system. In the latter state there is cardiac hypertrophy; in the former myomalacia or myocarditis. Both conditions, however, may be present in the same patient, and the resultant symptoms be more or less mixed. There is also a sclerosis of the heart which commences in the aorta and semi-

lunar valves. The arteriosclerotic symptoms of other organs depend upon defective nutrition due to the degenerated state of the vessels (which weakness also may lead to ruptures of the cerebral arterioles), or to circulatory disturbances due to the heart hypertrophy.

The author divides the scleroses into three classes: (1) Syphilitic sclerosis, attacking both small and large arteries, and characterized by intense local, without any general, trouble. (2) Arteriocapillary fibrosis, attacking the smaller and smallest arteries, characterized by improper general circulatory disturbance. (3) Senile sclerosis, affecting all the arteries, and manifested by both general and local symptoms. It is not rare to meet with combinations of the three classes. The prognosis is bad, but in the syphilitic variety the process may be arrested by suitable early treatment. In all cases iodide of potassium is the only drug which appears to deal directly with the fibrosis. Prophylactics, in the shape of diet, alcoholic abstinence, exercise, and eliminatory measures, should always have particular attention in likely subjects, and the condition of the heart be regularly investigated. Angina, cardiac asthma, and other organic symptoms will require the usual remedies.

Elimination of Bacteria by the Liver and Kidneys.

Metin (*Ann. de l'Inst. Past*, June 25, 1900) has conducted experiments to decide whether bacteria are eliminated in the bile and the urine, the opinions on this question being contradictory. Rabbits were intravenously injected with cultures of B. subtilis, staphylococcus aureus, B. anthracis, and other organisms, and guinea-pigs were inoculated subcutaneously with the same. Great care had to be taken to obtain the bile and the urine unmixed with blood. These secretions were taken at periods from a quarter of an hour to twenty-six hours after inoculation, and in all cases where they were free from blood they were found sterile. B. anthracis causes hematuria and lesions in the kidney, and urine taken twenty-four hours after inoculation gives cultures of the organism, but the bile is sterile. The kidneys and liver must therefore be considered impermeable to bacteria, unless the latter produce an admixture of blood with the secretion.

Bacterium Coli in Constipation.

Roos (*Münch. Med. Woch.*, Oct. 23, 1900), reviewing the classic treatment of constipation, adverts to the possible influence of intestinal bacteria upon peristalsis by reason as well of their functional chemical activity as of their purely mechanical presence, and relates a series of

successful experiments conducted upon himself and others tending to demonstrate how the ingestion of pure cultures of bacterium coli prevents intestinal peristalsis. From other tests conducted with the products of bacterial activity, he concludes that the noticeable increase in peristalsis is really traceable to functional bacterial activity rather than to the presence of secondary bacterial products.

THERAPEUTICS.

The Use of Olive Oil in Organic and Spastic Stenosis of the Pylorus and Duodenum.

Olive oil in large doses is highly recommended by Dr. Paul Cohnheim in organic and spastic stenosis of the pylorus and duodenum, and dilatation of the stomach consequent upon such stenosis. In his paper presented to the Thirteenth International Medical Congress he reaches the following conclusions:

1. Cases of gastric dilatation not caused by an organic obstruction, but by a spasm of the pylorus in consequence of an ulcer or a fissure, are cured or greatly ameliorated in a short time by the daily administration of three to eight ounces of olive oil.

2. Even cases of pyloric or duodenal stenosis of a cicatricial nature, with resulting gastric dilatation, are relatively cured by large doses of the oil, systematically employed. Patients complain of no illness as long as they avoid all excesses in food and drink. In these cases the pain and resistance caused by the friction are relieved by the mechanical effect of the oil.

3. Those cases of relative stenosis of the pylorus and duodenum which are characterized by a continuous secretion, and by pyloric spasm coming on after the principal meals, improve or are completely cured by the oil treatment.

4. The oil is best taken—either naturally or through a stomach-tube—in doses of about thirteen drachms, three times a day, one hour before meals. If for some reason it cannot be taken three times a day, it should be given in the morning on an empty stomach in doses of about three and a half to five ounces.

5. The oil answers three indications: it breaks the spasm, diminishes the friction, and markedly increases the nutrition; because, even in cases of very pronounced stenosis, it gets into the small intestine and is there absorbed.

6. In cases of ulcer, the oil acts on the spasm as an anodyne; provided it is pure and genuine, it produces no secondary disagreeable

effect. There is no belching up, no diarrhea, and the patients take it willingly.

7. In cases of cramp or spasm of the stomach of a purely nervous origin, the oil produces no favorable effect whatsoever—a fact which may serve as a point of differential diagnosis between spasms of organic and of nervous origin.

8. By the aid of the treatment with olive oil we succeed in improving a great number of cases of pyloric stenosis with resulting gastrectasis, so that surgical interference becomes unnecessary. It is, therefore, desirable to employ this treatment in all cases of pyloric stenosis before resorting to surgical operation.

Thyroid Treatment of Myxedematous Idiots.

At a recent meeting of the Berlin Medical Society, Dr. Cohn (*Medical Press*, Dec. 5, 1900) showed a child of fifteen months whose case was interesting from its age, the difficulties of diagnosis, and the results. The child, born at term, whose parents were cousins, was very strong at birth. The head was large, and it took the breast for eight months. It was brought to him when it was a year old, when it had already been under treatment by seven medical men. The first striking symptom was the constipation that had been present from the seventh week; this could not be overcome either by enemata or purgatives. Spontaneous evacuation only took place when the child had convulsions, which were also a feature of this case. The convulsions came on at six months, and were repeated every fourteen days, sometimes daily. The infant made no advance either physically or mentally. In August the speaker diagnosed idiocy; the features flattened, the bridge of the nose depressed, the tongue protruded, and the eyes closed. At a year old the infant weighed 11½ pounds, was 62 centimeters in length, the circumference of the head 47 centimeters, fontanels wide open, the bony skull firm. There was no sign of rickets, there were no teeth, the extremities were cool; even in the summer the child had to have external heat applied. The mental development remained at that of the first week of life; it stared but did not notice, reacted only to loud sounds, did not move, and lay exactly as it was placed; on drinking the greater part of the fluid ran out of its mouth.

Thyroid treatment was begun at the middle of August. At first half a tablet was given daily, later a whole one, but never more. Forty-one tablets were given altogether, or four grammes of thyroid extract. The effect was immediate and brilliant. The bowels acted twice or thrice a day, the convulsions ceased, the appearance of the child changed, the mother remarking that the child opened its eyes again.

The tongue was retained in the mouth, the mental function improved, the child became brighter, moved about, played with its extremities. Free perspiration now came on, so that it had to be dried two or three times a day. Fourteen days after the commencement of the treatment the hair began to fall out freely, so that the pillow was covered with hair in a single night.

Bloodletting and Saline Transfusion.

At a recent meeting of the Paris Academy of Medicine, M. Reynaud (*Medical Press*, Dec. 12, 1900) said that in grave affections (infectious and intoxicating), besides the usual indication, which consists in attacking directly the cause of the malady, there exists another, not less important, which is to remove from the organism the greatest amount possible of poisons (in acting both on kidneys and the blood), and to render them less dangerous in diluting them in the blood.

Bloodletting removes from the blood a large number of toxins; done with moderation, it gives fulness and strength to the pulse, facilitates the working of the heart, restores to the capillaries their contractile tone, and at the same time it favors the gaseous exchanges, by reason of the greater activity it gives to nutrition. But that action, frequently heroic, of bloodletting, is only temporary; the toxic liquids of the organism are not slow to renew the mass of the blood; besides, as Barrie showed, diuresis is a little diminished by reason of the lowering of the vascular pressure.

By hypodermic saline injections the tension is raised and the diuresis increased, while the anatomical elements are stimulated, increasing thus the means of defense of the organism. The amount of blood drawn might be from six to twelve ounces, while that of the saline solution injected hypodermically or into the vein should be very large, from twenty ounces to three quarts. With an injection of fifteen ounces no reaction takes place, but above that amount the pulse becomes full, the tension increases, the temperature rises to the fifth hour after the injection. Diuresis becomes abundant, and the elimination of urea and the chlorides is rapidly increased.

In concluding, M. Reynaud said that he prefers the hypodermic injection to that done through the veins; the results are less rapid, but just as complete and as durable.

Treatment of Sore Nipples.

At a recent meeting of the Paris Medical Society (*Medical Press and Circular*, Nov. 28, 1900) Dr. Oui, in treating the question of sore

nipples, said that one out of every two nursing women is affected with lesions of the nipples. The determining cause of the fissures is maceration of the epiderm under the double influence of the saliva of the infant and the milk which flows during the intervals. The epiderm exfoliates, and the derm exposed becomes excoriated; the lesion thus produced becomes infected, and, instead of healing, progresses in extent. The predisposing causes are short and inextensible nipples and want of cleanliness. Primiparæ are affected with fissured nipples to the extent of fifty-nine per cent.

The prophylactic treatment consists in astringent lotions during pregnancy, while after delivery the nipple should be washed with boric acid lotion before and after suction, and the application of an antiseptic dressing during the intervals of nursing. The curative treatment, to be radical, consists in the suspension of nursing, which, although excellent for the mother, would be deplorable for the child. The list of agents employed against the fissure is very lengthy, indicating their uselessness. Dr. Oui is in the habit of simply applying a weak solution of sublimate (1:4000) during the period of rest, which is removed before the child is applied, and the parts washed with boric acid solution. Against the pain he has found a saturated alcoholic solution of orthoform to be best. Cocaine is dangerous.

Protargol in Vulvovaginitis in Children.

Siebert (*Münch. Med. Woch.*, Oct. 23, 1900) advises the use of a one-half to one per-cent solution of protargol, and recommends the following technique:

He places the little patient in the exaggerated lithotomic posture (dorsal decubitus, seat raised with pillow, thighs flexed upon abdomen and abducted), fills the vagina with the protargol solution introduced by means of a blunt urethral syringe, and cautions against the use of any force whatever. The vulva is held closed for about ten minutes afterward, and the whole procedure repeated three times at one sitting, which therefore occupies a half-hour. Patient receives three treatments a day.

Existing urethral discharge requires the concomitant use of a 0.50-per-cent protargol injection.

From three to eight days' treatment is necessary to cause disappearance of the discharge.

Adjuvant medication in the form of a daily sitz bath in a lysol solution, or in some astringent decoction, and the interposition of moist borated cotton between the labiæ, have proven of great benefit.

After disappearance of the gonococci Siebert advises using a one-

per-cent solution of zinc sulphocarbolate applied twice a day for ten minutes at a time, and of the usual protargol treatment for one-half hour daily, and winds up the course with gradual suppression of the protargol.

Potassium Iodide in Human Actinomycosis.

Victor Lieblein (*Münch. Med. Woch.*, No. 42, 1900) reports results obtained in the Prague Clinic by the use of iodides in actinomycosis, and shares the views of Zurinka, Prutz, and others, to wit: that potassium iodide, while not a specific which destroys the fungus, still constitutes a powerful remedy, inasmuch as it effects a rapid retrogression of the fungus-bearing structures. Statistical research has proven that actinomycosis of the head and neck is the most amenable to treatment, while of cases in which the lung was affected, only two out of five were cured. Lieblein is of opinion that merely conservative treatment will cure a large number of actinomycosis patients. Concerning the duration of the iodide treatment, Lieblein has it "the longer, the better," and recommends to use the remedy for several months after all local symptoms have disappeared. He has often used from one to three hundred grammes in a given case. He prefers the method employed in Wolfer's clinic, by which the patient takes, at the beginning, from one to two grammes of the potassium iodide in powder or solution, a dose which is later increased to three, and rarely to five, grammes. The diseased parts are covered with lint saturated with a ten-per-cent solution of potassium iodide. Any possible abscesses are to be opened up and packed. Curetting is not required. Cases which have been cured under this plan of treatment show up with nice, smooth, hardly noticeable scars.

The Decubitus Treatment of Bronchial Diseases.

Jacobson (*Berliner Klin. Woch.*, Oct. 8, 1900) reviews the indications of a special decubitus in the management of bronchorrhea, and ascribes the advantages derived from this method to the reflex irritation produced upon hitherto unaffected bronchial surfaces by the displacement of accumulated secretion. Surfaces usually bathed by sputa become dulled to the stimulus, hence the recommendation of systematic decubitus as originally made by Quincke, by virtue of which, on account of the migration of mucus, a cough reflex is produced which furthers expectoration.

The treatment is especially indicated in cylindrical bronchiectasis and in fetid bronchitis.

The technique is very simple. Patients are requested to assume

the horizontal dorsal position for one hour at a time morning and night, and gradually restrict themselves to the morning treatment when the secretion becomes less copious. In most cases it may be indicated to raise the foot-end of the bed from ten to twelve inches to insure the proper declivity.

Jacobson relates two cases which have been closely followed and show remarkable results from the treatment.

RHINOLOGY AND LARYNGOLOGY.

UNDER THE DIRECTION OF WADSWORTH WARREN, M.D.

An Unusual Case of Nosebleed.

This case, reported by Dr. Squires, of East Avon, New York (*Medical Record*, Dec. 22, 1900), presents a curious instance of a severe hemorrhage resulting from the unsuspected presence of a foreign body in the nose.

The patient, aged fifty years, of good intelligence and of previous good health, awoke at night and found blood trickling down his neck from the anterior nares. The usual home treatment for epistaxis proving ineffectual after a few hours, a physician was called, who plugged the anterior nares, and a little later the posterior nares. The hemorrhage continued very severe and but partially controlled by plugging for forty-eight hours, when the patient was so exsanguinated as to be unable to raise his head. He was partially blind and suffered great nausea and thirst. Supporting treatment was instituted, but the plugging had to be continued for ten days, hemorrhage starting profusely whenever for the purpose of cleanliness it was necessary to change the plugs. For two months there occurred occasional but slight attacks of epistaxis, when they ceased entirely, and the patient gradually recovered his usual health.

Four months later the patient found a sharp point protruding from the side of his nose. With a pair of tweezers, a rusty piece of needle about one inch in length was removed, affording an explanation of the previous severe hemorrhages.

In reporting the case no mention is made of any rhinoscopic examination.

Lupus of the Face.

Before a recent meeting of the Liverpool Medical Institution (*Lancet*, Dec. 15, 1900) Mr. C. Thurston Holland showed two cases of lupus of the face treated by *x*-rays. One patient was shown in 1898,

and except for a very slight relapse necessitating six more exposures this year, had remained cured and was now practically well.

The other, a girl eight years of age, was treated this year for a patch of lupus on the left cheek, five inches in diameter. Ten exposures of ten minutes each had resulted in complete cure, the scar tissue being quite soft, non-adherent, and non-contractile. It was generally conceded that the resultant scar in the latter case was superior to the after-treatment (even when successful) of lupus by scarification, cauterization, and decorticating medicaments.

Moistening Laryngeal Mirrors with Lysol.

Ruprecht (*Monatsschrift f. Ohrenh.*, 1900, No. 6) advises moistening the laryngeal mirror with a 0.50-per-cent solution of lysol in lieu of the usual heating over a flame. The soapy nature of the solution prevents condensation of the breath upon the mirror and tends to increase rather than diminish its reflecting capacity.

OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,

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Extraction of Foreign Bodies from the Ear.

Zermoyez (*Presse Médicale*, Nov. 10, 1900) claims that hundreds of lives would be saved every year if physicians, parents, and nurses realized that a foreign body in the ear does no harm as long as it is not meddled with. He reminds us that efforts at extraction cause the trouble. Filling the ear with olive oil will kill insects, and the syringe will remove nearly all foreign bodies if properly applied. The stream of water should be directed toward the free space left between the foreign body and the walls of the meatus, or if this cannot be discovered, toward the lower front of the foreign body. If there is much swelling or inflammation of the meatus following efforts at extraction with a hairpin, etc., the inflammation should be allowed to subside. The author advocates chloroform for children and timid adults if an instrument has to be used, as any movement of the head is perilous.

Cause and Treatment of Ménière's Disease.

Dr. Moll (*Gazette des Hôpitaux*) mentions that Ménière's disease, or Ménière's syndrome, consists of vertigo, tinnitus, partial or complete deafness, with nausea or vomiting. Aural vertigo is to day well

known; it arises from an affection, transient or permanent, of the labyrinth — primary if there is an intralabyrinthine lesion, secondary if there is only an increase of intralabyrinthine pressure, an abnormal compression following lesions of the middle or external ear. As Ménière's disease presents itself in various forms, as it has not always the same origin, and as the symptoms are exactly the same when an affection of the other parts of the ear is present, it seems needless to retain the expression Ménière's disease for a single form. This symptom-syndrome may depend on a lesion of the external ear, of the middle or the internal ear, of the acoustic nerve.

Treatment varies with the cause. To quit the labyrinthine hyperesthesia, the sulphate of quinine is the favorite remedy, given in small doses; the hypodermic injection of pilocarpine (Politzer, Lucea); in cases of syphilis the iodides; the bromides in the neurasthenics. The reflex trouble due to nasal or pharyngeal lesions must be considered, and the latter treated.

Ménière's syndrome is an important symptom of toxic labyrinthitis, which disappears frequently completely when the cause ceases.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Lecturer on Dermatology, Detroit College of Medicine.

The Nature of Tuberculides.

In a report on the so-called tuberculides presented by T. Calcott Fox to the Fourth International Congress on Dermatology and Syphilis (*British Journal of Dermatology*, November, 1900) he gives the following conclusions: Although the pathogeny of these eruptions is not yet placed on a firm basis, yet in each of the groups considered we have a concurrence of evidence, both positive and exclusive, pointing strongly to their tuberculous origin. That they are not the result of a cachexia, or a secondary change arising on a soil prepared by tuberculous infection, seems clear. What seems to be the complete proof of the tuberculous nature of acne telangiectodes and erytheme indure greatly strengthens the probability that the other constituents of the groups under consideration own a like cause. The attractive toxinic theory of Hallopeau appears to be excluded by the positive evidence accumulating of successful inoculations. In this connection it is interesting to observe how rare these eruptions are in frank cases of phthisis, and we should rather expect toxins circulating in the blood-stream to excite erythemata by their influence on

the vasomotor centers. In syphilis, eruptions analogous in many respects to the tuberculides occur regularly as a part of the general infection, but in tuberculosis a systemic infection with bacilli is less frequent. The tuberculous infection has a far greater tendency to remain local. We may note, also, that the later syphilides have no longer an infective power, and tend to a localized and a symmetrical distribution. If these tuberculides are due to the implantation of Koch's bacilli emanating from some distant focus, and coming by way of the blood-current, it is clear that the organisms must be of little virulence, and easily killed probably. They must also be few in number, as a rule.

And if this be so, we have sufficient reasons why the pathological changes are often indecisive, and why inoculations fail.

The Nature of Alopecia Areata.

In an editorial in the *Polyclinic*, Medical Graduates' College, London, England, December, 1900, it is observed in part that Lassar, of Berlin, holds that in reference to the nature of alopecia the nervous theory has lost ground more and more, and that the parasitic one is the most probable, and that he is in the main supported in these conclusions by Dr. Norman Walker, of Edinburgh. Pavlof, of St. Petersburg, has made a contribution to international dermatology by stating that this form of alopecia is not so rare in Russia as has been supposed, and that he has himself in ten years seen 150 cases. He has never observed contagion, and is still inclined to the nervous theory. Sabouraud, of Paris, appears to think that the typical alopecia areata which begins on the occiput is most common in childhood and disappears at puberty, and that hereditary influence is definite. In England nothing is known of hereditary influence, and the malady is found more common after than before puberty. The distinctions which this distinguished observer would attempt to draw between the area Celsi and Bateman's alopecia are wholly unknown in England. Putting aside certain exceptional and rare cases, it is held there that the alopecia areata which is occasionally seen before puberty and that which is so frequently seen after it are one and the same disease.

Effects of the Sun in Producing Diffuse Pigmentation of the Skin.

In the *Polyclinic*, Medical Graduates' College, London, England, December, 1900, is given a description of the portrait of a young woman in whose case the diagnosis of Addison's disease was given in

error. The portrait was taken in the belief that disease of the suprarenal capsules existed, and that a fatal result would follow. The patient came under care on account of general weakness, and had complained much of pain in the back. Under tonic treatment, however, she regained her health, and during residence at her home in London the deep-brown tint of her face disappeared. The sequel invalidated the diagnosis and made it seem probable that all that is shown in the portrait was the result of exposure to the sun at the seaside. The patient had only just returned from the sea when the portrait was taken. It is of interest as showing the extent to which sun-tanning may go, and, further, that it is not always persons in strong health who brown the most.

Relation of Freckles to Scrofula or Tuberculosis.

In the *Polyclinic*, Medical Graduates' College, London, England, December, 1900, attention is drawn to the fact that it is well recognized that different persons are liable to freckle with very different degrees of severity, and it has been suspected that a remarkable proneness to freckle is often coincident with tendency to scrofula or tuberculosis. It is most certain that such proneness is associated with the temperament of the individual as shown by color of eyes and hair. Freckles are as a rule conspicuous only in the clear skins of children and young persons. In adults they are either not often present or are comparatively inconspicuous. An observation of some interest has, however, recently been made that they are liable to return in senile periods and to assume infective characters.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

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The Essential Factor in the Causation of Sex.

Recently, at a meeting of the Obstetrical Society of London, E. R. Dawson (*British Medical Journal*, Dec. 15, 1900) read a paper on the essential factor in the causation of sex—a new theory of sex. The author said the ovaries normally discharge ova independently of each other, probably working alternately. The proof is that the number of cicatricial depressions, the result of ruptured Graafian follicles, are nearly equal in each ovary, and together they equal the number of menstrual periods passed. Normal single pregnancy is

the result of the fertilization of an ovum from one ovary only, by the combined secretion of both testicles; therefore the male parent does not influence the sex of the coming child. The sex of the child depends upon which ovary supplied the ovum fertilized; if the right a male, if the left a female. He quoted cases of ovariotomy where one ovary only was removed, the subsequent pregnancy giving a child corresponding in sex to the ovary which was not removed. He also gave cases of tubal pregnancy where, by operation, a male fetus was removed from the right tube, the corpus luteum being in the right ovary; and *vice versa*, where a female fetus occupied the left tube, the corpus being in the left ovary. Cases were quoted to show that the affected tube in tubal pregnancy, and in tubal moles, is generally on the same side as the corpus-luteum-bearing ovary. Cases where either tubal or cornual pregnancy occurs on the opposite side to the corpus-luteum-bearing ovary are unusual, and explained by two theories, namely: (1) The grasping by the tube of one side of the ovary of the opposite side; (2) the transmigration of ova. The production of twins and plural births was also considered. Here the ovaries must act at or about the same time when the sex of the twins is different, while, when twins are of the same sex, it was shown that the ovary of one side might provide two ova. Unilateral sterility was shown to account for those cases where the children are all of the same sex, or where, after a child of one sex is born, the remainder are of the opposite sex. The usual mixture of children as regards sex, which most parents have, is due to both ovaries usually being active, and thus supplying children of each sex. There are two ovaries only, and two sexes only.

The Therapeutics of Disorders of Menstruation.

MacNaughton Jones (*Edinburgh Medical Journal*, July, 1900), in discussing the hygienic, medicinal, and operative treatment of menstrual disorders, recommends, in case of absence or suppression of the catamenia, cycling and other outdoor sports in moderation, a course of Swedish or other suitable gymnastics, and massage. These measures may be supplemented by galvanism or faradization, internally or externally, or a course of hydropathic treatment at a recognized spa. In some instances, especially when dysmenorrhea is associated with amenorrhea, a full Weir Mitchell course is very beneficial, but this "blood-making" panacea, when adopted without due consideration, not infrequently does more harm than good.

As regards medicines, senecin (two to six grains), alone or with hydrastinine, is useful in amenorrhea and dysmenorrhea; in congestive

or spasmodic dysmenorrhea it should be combined with the bromides. Hydrastis is now very generally used in atonic conditions, and the hydrochlorate of hydrastinine is one of our most valuable astringents in uterine hemorrhage. Manganese dioxide, especially if combined with ferrous carbonate, is undoubtedly effective in amenorrhea with anemia. Monobromate of camphor may, when there is ovarian pain, be added to other remedies. Of the coal-tar series, antipyrin or phenalgin will give most relief to dysmenorrheal pain. If there be irregular or enfeebled action of the heart with deficient compensation, strophanthus or digitalis is indispensable.

In regard to surgical measures, depletion, dilatation, section of the cervix, and the operations of Sims and Dudley, all have their special indications; but displacements, hyperplasia, endometritis, interstitial or submucous myomata, are causal factors frequently met with, and should be dealt with on broad surgical principles. With modern methods and antisepsis there is no excuse for procrastination in the treatment of conditions that imperil, sooner or later, not merely the organ affected, but life itself.

Fibromyoma and Cancer.

Pauchet (*British Gynecological Journal*, November, 1900) states that most of the cases of cancer of the body of the uterus which he operated upon originated in small fibromatous uteri, which, after a quiescent condition of several years, had eventually given rise to sanguineous discharges and pain, indicating malignant transformation. Five of his specimens were fibromatous uteri with their cavities packed with cancerous vegetations. His conclusions are as follows:

1. He only operates in early cases.
2. He removes *en bloc* the whole uterus by the abdominal method.
3. He advocates the removal of all fibromata, if only as a dangerous nidus for cancerous development.

Claisse says: "When a uterine fibroma has been recognized and a vaginal discharge of a serious, often offensive, character is observed, with occasional violent hemorrhage and paroxysms of intense bearing-down pains, these symptoms, especially if they are observed at the time of the menopause, should arouse a suspicion of malignant degeneration of the uterine mucosa, which direct examination will often confirm."

Experience has shown that total abdominal hysterectomy gives the best results, several cases of partial removal having been observed to require a second operation from the return of the malignant process in the stump.

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ORIGINAL CONTRIBUTIONS.

ADENOID GROWTHS OF THE POST-PHARYNX.

BY GEORGE H. GORHAM, M D., BELLOWS FALLS, VT.

I consider there is no disease with which the human body is afflicted that is as common as adenoid vegetation, of which the medical fraternity in general know so little. I have frequently met with physicians who have asked me what was meant by adenoids. But are they to blame? Nothing has been written about this condition in the general text-books, and until within the past few years nothing has been taught us by the professors in our colleges or by the medical journals of our country.

Adenoid growth of the post-pharynx was first accurately described by Meyers, of Copenhagen, in 1868. But little attention was paid to his communication on this important subject. About ten years later Löwenberg, of Paris, brought out many additional facts, so that by 1885 our own laryngologists and aurists had taken full cognizance of the trouble. It is only within the past five or ten years that the general practitioners have become acquainted with the symptoms of the disease and the means of treatment.

Adenoid growths, or vegetation, sometimes called the pharyngeal tonsil or Luschka's tonsil, are, more properly speaking, lymphoid hypertrophies. Pathologically they are very similar to the faucial tonsils, except that they do not have any small narrow crypts, but abundance of irregular spaces in which secretions of all kinds can accumulate. These vegetations are located behind the soft palate and in the vault of the pharynx. In a few cases I have seen them protruding down beneath the border of the palate.

There are two kinds, the soft and hard. We never find the hard

under ten years, and not often the soft above fifteen. The soft variety has frequently been likened to a bunch of grapes, hanging down as it does in small points. In the hard kind they are about the size of a small walnut.

The etiology of this disease is unknown. We find it in babies a few days old, and in childhood up to adult life. We find it in all classes of patients, among the rich and the poor, those who have the best of hygienic surroundings, and those who dwell in dirt and squalor. A great many claim that heredity is an important factor in its development. We do know this, that there is a much lower percentage of cases in tropical and semitropical countries than here. It is said to be especially prevalent in Greenland. Most careful observers think that about ten per cent of all children are afflicted with this condition. I should say that there was a greater, rather than a less, number than this who have an enlargement of the pharyngeal tonsils.

French investigators say that if an extract from these vegetations be injected into a guinea-pig, it will produce tuberculosis. This disease is essentially one of childhood, rarely being seen after the thirteenth year; the average age of my patients has been seven years, the youngest being nine months, and the oldest sixteen years. In a series of sixty-eight cases I find that there have been one-fourth more females than males. The symptoms of this condition of the post-pharynx are usually well marked. There is a certain expression to the countenance in many cases which, if once known, can always be recognized. The mouth is partially open, the nose drawn down, with sharp lines running from corner of mouth alongside of nose to the eye. The child appears listless and apathetic. In some cases there is a true idiotic expression. The attendants usually bring the child to us because of its snoring at night. It cannot breathe through the nose, but is obliged to keep the mouth open. In some cases it is impossible for the little patient to get *any* air through the nasal passage. Frequently we have a bloody mucous discharge from the nose.

In seventy-five per cent of my cases I have found a middle-ear trouble. In these cases the parents very generally bring their children for treatment for deafness rather than for throat trouble. In most of these cases I have found a retraction of the tympanic membrane due to a lack of aeration of the middle ear, which was caused by stoppage of the Eustachian tube. Some writers speak of it as one of the great causes that keep up a purulent discharge from the middle ear. It is difficult for these cases to properly pronounce the consonants, sounding very much as if they had a cold, M and N being especially hard for them.

In a large percentage of my cases the general health has become

affected—poor appetite, restless and uneasy during sleep, anemic, and frequently nervous. They may become very irritable and peevish, sometimes simulating chorea. I have seen them remain almost stationary in their growth and development for a year because of this abnormal growth of the pharynx.

From the first it has been observed that adenoid vegetations have an effect upon the mind. It seems to affect the mental condition of the patient to a greater degree than the mere mechanical obstruction to breathing and the stoppage of tube to middle ear. One of the most interesting results of treatment is to watch the rapid mental development of a child after the removal of this growth. We get many reflex symptoms from this, but I consider that they all arise from the weakened condition of the nervous system, due to the patient's general debility.

In adults one can make a satisfactory examination of the post-pharynx with the rhinoscopic mirror, but in children the only way to make a positive diagnosis is by digital examination. This can be done very quickly, and with but very little pain, by holding the head of the child beneath left arm, opening the mouth with the same hand, keeping the jaws apart with a napkin, and quickly passing the forefinger up back of the soft palate. One soon becomes accustomed to the landmarks, so that he can recognize at once whether there are any abnormal growths there or not. If there are any present a soft gelatinous mass will be found, or else some small, round, hard balls, the latter being of the hard variety of which I spoke.

In more than fifty per cent of my cases I have found a hypertrophy of the faucial tonsils. Their presence, I think, adds to the certainty of there being adenoids. Seventy per cent of all deaf-mute children that were examined in one large hospital were found to have adenoids. They received but little benefit, though, from treatment.

Now as to treatment. I consider that there is but one effective method of relieving the patient of this growth, and that is by surgical means. There are a few most excellent laryngologists who believe that the symptoms arising from this condition can be relieved by medicinal methods in a large majority of cases. Seiss, of Philadelphia, is one of its strongest advocates. In the first years of my practice I tried different applications to the parts—nitrate of silver, solution iodine, sprays of a great variety of kinds—but I saw very little benefit from them. To relieve any of the symptoms it would be necessary to continue the applications for a long time, and that is not an easy thing to do in a small child.

With one or two exceptions, I have always used an anesthetic in this operation. Most surgeons at present use some form of general

anesthesia. Formerly they rarely used it in Germany, and some good operators even at present do not use it here in America. I consider it unjustifiably cruel not to do so. There is no question but what the operation is painful, and the surgeon can certainly do a much more thorough and satisfactory operation with the patient quiet. On the question of what kind of an anesthetic to use the profession again have widely divergent views. Probably chloroform has been employed most commonly of all; it is very convenient to administer, children especially taking it quietly and quickly, it produces no mucus in the throat, and there are no bad after-effects. Up to within about a year ago I have nearly always used it, especially in small children, but after reading Hinkel's report of seven deaths from chloroform in this operation I have given it up and am now using ether. Bickner says that chloroform should *never* be used on patients having the lymphoid tendency. In London nitrous oxide is employed to some extent, but the effect passes away too quickly. Bromide of ethyl is used by a large number of good operators in France and Italy, and in Chicago in this country; I have never tried it. In adults one can employ cocaine or eucaine for a local anesthesia, applying directly to mass, not as a spray; in children it is not advisable to use it.

There are two positions in which the operation is performed, the upright, and the horizontal, with the head dropping down beyond the end of the table. I always operate in the former position, as I consider that a person can do a more thorough operation with the patient in this position, and there is less hemorrhage and little more danger. Of course, there is some danger from a blood-clot passing into the larynx, but I consider the possibility small. We do get in either position a sharp hemorrhage for a few minutes. There have been reported eighteen deaths from hemorrhage, malposition of the internal carotid accounting for a number. I have the anesthetic administered with patient in the recumbent position; I then wrap him up in a large sheet, so that even if he should struggle he could not free his arms. I always insist that the anesthesia shall be complete, as otherwise a thorough and satisfactory operation cannot be done. I then have my assistant take the child on his lap, with head resting on left shoulder slightly tipping backward. I intend that the child's bowels shall be moved the night before, and that the nose and throat be sprayed with some antiseptic. Of course, forbid all food for some hours previous to the operation.

There are very few prominent laryngologists in the world but what have devised some instrument for the thorough eradication of adenoid vegetation. They are either in the form of curettes or forceps; some operators use one, some the other, more use both. There are others

doing a large number of these operations who depend upon their finger-nail or palmar surface of finger almost entirely to remove the mass. It is impossible to do a radical operation by this means.

The Gottstein curette or a modification of it, and the Löwenberg forceps or a modification of same, are the two principal instruments. The cold snare, the electrosnare, and the ring knife are some of the other methods for its removal.

After seeing that the instruments are properly sterilized and the patient in position, I place the mouth-gag on left side of jaws. If the faucial tonsils are to be removed I always operate upon them first, so that the blood will not run down from above and obstruct my vision. These can be very quickly guillotined. I then quickly remove the adenoids with a modification of Löwenberg's forceps, the posterior and superior surfaces having a cutting edge. With these we can remove all the vegetation in Rosenmüller's fossa and those located by the posterior nasal aperture. One can readily tell by the touch whether he has removed all the growth or not. One must not use any force in this operation, as he will damage the mucous membrane of pharynx. I then take the curette and sweep over the vault of pharynx and down the posterior surface. This will usually take out all the abnormal tissue that there is remaining. I then bring forward the patient's head and let the blood run out of the mouth and nose. After a minute or two I introduce the index-finger of right hand and sweep over the entire vault, removing any vegetations that have escaped the forceps or curette and smoothing down the whole bleeding surface. I then remove the gag, clean the face of blood and remove sheet, and put the patient to bed with the head hanging over side of bed, so the blood will run out of the mouth. I think it is important that the patient should be kept quiet for at least the first twenty-four hours. On this account I rarely operate at the office. Soon after the operation the patient will usually vomit quite a quantity of blood which has been swallowed.

I prescribe the use of an antiseptic spray for a few days, and caution the attendant about catching cold. There is very little discomfort following this operation; the patients do not complain of pain except for a few hours, and do not experience any trouble in swallowing after a day or two. I frequently prescribe for these patients after operating either the syrup hydriodic acid or the syrup iodide of iron. If they have been having trouble with their ears, due to these growths, they should receive treatment afterward, although they will frequently show improvement immediately. It is sometimes very surprising to notice the marked gain in the general condition of these cases after operating. I have never yet seen a case operated upon but what

has shown marked improvement in general health, besides freedom in breathing. I would urge the importance of early recognizing and treating this condition. There is hardly a disease which if left unchecked will produce such direful results.

THE PERVERSIONS OF THE SEXUAL INSTINCT.

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The majority of the perversions of the sexual instinct are psychoses rather than diseases of the genitalia proper. We are indebted for our knowledge of the various sexual perversities to the able writings and researches of Krafft-Ebing, Caspar, Westphal, Montegazza, Lombroso, Coffignon, Havelock Ellis, and others. I shall limit myself in this article to a brief description of the different morbid conditions comprising the subject under consideration, without dwelling at length upon the treatment; the latter has in certain places been disregarded or entirely omitted for obvious reasons.

The subject of "sexual perversions" embraces the following maladies:

1. Erotomania.
2. Satyriasis.
3. Urnings.

Erotomania.—This form of sexual perversity is a species of insanity, which is characterized by the continuous existence of erotic desires, without the power to accomplish same, or—to put it more tersely—without the wish for its ultimate satisfaction. The literature upon this subject is fragmentary, and the little available gives us no clue as to the exact origin of this malady. It is regarded by some as a symptom of diseases involving the central nervous system, and has been known to occur as a frequent, if not constant, concomitant phenomenon in imbecility, idiocy, and the general paresis of the insane. Others attribute it to lesions invading the olfactory lobe of the encephalon. Professor Keyes quotes Grimaud le Caux as follows: "In a case of a patient so afflicted, who, when asked what he would do if put to bed with a female, replied that he 'would go to sleep.'"

The treatment of this form of sexual morbidity is a subject of much controversy, and has so far proved very unsatisfactory. As erotomania is not a disease of the genitalia *per se*, little, if anything, can be hoped to be accomplished by the aid of therapy. Professor Krafft-Ebing recommends hypnotic suggestion as the *ratio ultimo.*

Satyriasis.—Satyriasis is a constant sexual desire with erection. It is an erotic delirium, or rather a condition of mental excitement, in which an abnormal intense sexual impulse is prominent. This malady is a phase of a general psychosis, occurring in mania and hallucinatory insanity. It is associated with demonstrable lesions of the cerebrum, especially in connection with tumors of the pons Varolii.

The essential element in this disease is a psychical hypersensibility centralizing itself upon the sexual center. The imagination creates sexual images, which lead to erotic delirium. Even indifferent conceptions and ideas, not actually belonging to the realm of sexuality, may excite lustful sensations. The genitalia are in a state of constant turgescence. An individual affected by this form of morbid sexuality seeks to satisfy his desire at any cost, irrespective and regardless of any obstacle and fearing no consequences. He may thus become a serious menace to the female sex and a danger to the community. Not always able, however, to secure female individuals, he resorts to onanism, nay, even sodomy. At the mere sight of a woman he is excited sexually, and satisfies himself by resorting to masturbation. An interesting and illustrative case is cited by Professor Acton of an old man who was extremely satyriatic, so much so that he would masturbate in the presence of ladies.

Satyriasis is not a very frequent malady. It may occur during senility. Continence, inducing repeated excitation of the sexual center as a result of psychic or peripheral stimuli, may favor the development of this condition. Pruritus scroti or ani is a good example of peripheral irritation; to the same category belongs oxyuris vermicularis. A certain predisposition on the part of the individual thus afflicted to this morbid sexual condition cannot be denied.

Satyriasis should not be confounded with priapism. In priapism from any cause there is, it is true, a constant erection of the organ, *unaccompanied, however, by any erotic desire.*

Satyriasis is an acute, abnormal, psychosexual state. Still there are cases which might be termed chronic ones. To the latter belong individuals who have indulged in venery to excess, but more particularly those who have practiced masturbation. This has finally led to the acquirement of a so-called "sexual neurasthenia," with the simultaneous coexistence of an intense sexual desire. The imagination, as in the acute form, is in a state of hallucinatory excitement, and the mind filled with obscene images. The most sublime ideas, the most beautiful conceptions, the most artistic scenes and poetic productions, are tinged with cynical and disgusting images and thoughts. All the desires, longings, reflections, and ambitions of such men solely revolve

around the sexual sphere. They indulge in the vilest, grossest, and most bizarre of perversions of the sexual instinct.

Treatment.—If this psychosis reaches formidable dimensions and the individual cannot be restrained, the asylum would be the appropriate place, since such men are a constant source of danger and terror to women. The medicinal treatment of satyriasis is very unsatisfactory. The motor depressants, nerve sedatives, and antispasmodics may be tried. In one case, coming recently under my observation, I administered potassium bromide and chloral hydrate, in doses of ten and five grains respectively, every two hours, with happy results. Opium and its alkaloids have also been recommended, but should be administered with a great deal of circumspection and not for any length of time, as they tend to congest the brain. Camphor in moderate doses, musk, castor, valerian, and asafetida have all their advocates, but their utility is rather questionable. Circumcision has been lauded by some and should be given a trial. This operation creates a blunting of the peripheral nerve filaments toward external stimuli, and thus removes one source of abnormal sexual sensibility.

As some cases of satyriasis are undoubtedly due to the presence of tumors or gummata within the cranial cavity, potassium iodide and arsenic may be given with a view to disintegrate the neoplasm and enhance the absorption and elimination of the latter. My belief is that the waste products of metabolism, through the fault of improper elimination, collect around the perivascular structures of the intracranial capillary system, and by virtue of the pressure they exert produce the phenomenon of satyriasis. In short, I attribute it to a uricacidemia, and in view of this theory recommend the various solvents used in this disorder of metabolism, as the salts of lithium—preferably the benzoate and salicylate—potassium, and sodium, in combination with colchicum. Colchicine salicylate and the new uric acid solvent, aspirin, may each be tried in their turn. Professor Krafft-Ebing practices hypnotic suggestion with this class of patients, and advances a warm plea for its use in this form of mental alienation. In spite of all our efforts this psychosis baffles our ingenuity, and a complete cure will never be effected.

Urnings.—This sexual psychosis, which is also known by the name of tribadism or Lesbian love, is the morbid inclination of a man sexually toward another man, rather than toward the opposite sex. Although occurring with greater prevalence in the male, it may be also encountered with frequency in the female sex; in the latter it receives the name of Lesbian love. It is merely a subvariety of "urnings." The morbid phenomenon of urnings is not only of clinical but also of anthropological value. "The majority of male or female

urnings do not act in obedience to an innate impulse, but they are developed under conditions analogous to those which produce the urning by cultivation" (Caspar).

This perversity has been frequently observed in penal institutions for either of the sexes. The inmates of these institutions not infrequently acquire the habit of manustupration, which they mutually practice upon each other. But manual gratification is not the sole purpose of those "forbidden friendships;" the imagination, running riot and deprived of all psychic balance and logic deductions, learns to regard a member of the same sex as one belonging to the opposite sex. Involution and retrogression of the mental equilibrium ensues, reaching such a degree that those individuals fancy they possess all the psychic phases of love, as jealousy and passion, which could scarcely be surpassed by persons of the opposite sex. The smile of one of those prisoners to another will create the most violent outbreaks of jealousy, anger, and even rage on the part of his or her friend, as the case may be. Parent-Duchatelet offers the following interesting assertions in regard to Lesbian love: "The disgusting and perverse acts which men perform on prostitutes are responsible for driving those unfortunates to tribadism. Thus, prostitutes of great sensibility, who are unsatisfied with the feigned intercourse of impotent and perverse men, are driven to indulge in this form of sexual perversity." The same author cites a case of a prostitute who, while intoxicated, forced another woman to Lesbian love. Taxil reports similar cases.

Montegazza finds that tribadism has the significance of a vice, brought about by an unsatisfied sexual hyperesthesia. If opportunity favors the cultivation of this perversity, it may lead to an acquired contrary sexual instinct, with repugnance and abhorence for sexual intercourse with the opposite sex. No doubt a certain hereditary tendency, a predisposition toward this as well as toward the other forms of sexual perversions, is believed to exist in those unfortunate individuals.

Krafft-Ebing relates a case of urningism in which the lover was as sentimental in her tone and general conduct as is usually the case between lovers of the opposite sex; separation broke the heart of the one abandoned; jealousy ultimately led to a bloody revenge.

Montegazza relates the following cases of congenitally perverted sexual instinct: A woman was brought before a London court dressed as a man, and who had been married to three different women. Her sex was finally discovered, and she was sent to an asylum. Two women lived together as man and wife for about thirty years. On her deathbed the pseudo-husband confessed her secret to the bystanders.

Caffegnon maintains that tribadism, which he calls "sapphism," is met more frequently among females of the aristocracy and prostitutes; he claims that this vice has of late come into fashion. His reasons for the acquirement of this perversity are: the reading of obscene novels; an exclusive association and companionship with members of the same sex; female boarding-schools; female or male penal institutions; the sleeping of male or female domestics together in the same bed, etc. The same author makes no distinction between the congenital and acquired forms, admitting, however, that they are the result of certain pathologic states of the cerebral cortex.

No matter how shocking, sad, and disgusting this form of sexual morbidity may seem to the reader, it nevertheless merits description, and demands profound study and ardent and zealous research for its amelioration, abatement, and eradication, and the adoption of measures for its prophylaxis.

HYSTERICAL PHENOMENA SIMULATING A DIVERTICULUM OF THE ESOPHAGUS.*

BY CARL WEIDNER, M.D., LOUISVILLE, KY.

A young lady eighteen years of age came to me after having passed through the hands of several other practitioners, showing the general manifestations of marked neurasthenia. No special hysterical phenomena were described by the grandmother, who accompanied her, but I found extreme rapidity of pulse, feeble heart action, symptoms of anemia and general weakness, loss of appetite, etc., predominant among the subjective complaints.

Medication in the case was directed mainly toward relief of the anemia, toning up the heart, etc., but after a week or two of treatment new phenomena developed which are quite interesting. The girl began to complain of inability to swallow; fluids as well as solids would not go down well. Food taken by the mouth would be spit up again either almost immediately or within a few minutes; sometimes fluids would not pass down the esophagus. The ejected material was always accompanied by a large quantity of viscid mucus, particularly if she had partaken of milk and bread or other rough substances. The mucus at times was perfectly clear; at other times it was yellowish-green, in lumps or masses. It was excessive in quantity, as the attendant stated there was almost a bowlful at one time. I have seen her spit up a quarter of a pint of mucus after attempting to take a meal. She finally became unable to swallow anything. Milk or broth

* Reported to the Louisville Clinical Society.

with or without solids, eggs, etc., would not pass down, and stomach feeding became a matter of necessity.

I had no trouble in introducing a stomach-tube. At first I thought the mucus came from the stomach; consequently the stomach was washed out. I found I was mistaken, as the water came away apparently clear and comparatively free from mucus. The fluid from the stomach was of an acid reaction, while the mucus showed an alkaline reaction. Stomach feeding morning and evening was continued for about three weeks, the food being well borne when given this way. It seemed at that time as if I had to deal with a diverticulum of the esophagus, but I could not by repeated physical examination make out such a condition, either before or after eating, in any part of the esophagus. The diagnosis hinged between two things, viz., a diverticulum of the esophagus, or a purely nervous condition causing the dysphagia and the excessive secretion of mucus. Later the case developed a new phenomenon in the form of typical hysterical attacks, which verified the diagnosis of a purely neurotic condition. The patient began one day to eat without any trouble, and a few days later claimed again that she could not swallow. Shortly after that she began to take food by the mouth, swallowing without difficulty, and has been doing so ever since.

There was one other feature which was also due to the nervous condition that I forgot to mention. During the time when she took, by actual measurement, not more than one and a half glasses of water during the day, besides the two meals consisting of twelve ounces of milk with or without egg, and some veal broth occasionally, she would pass a gallon and a half to two gallons of urine in the twenty-four hours. This polyuria lasted for a period of about two weeks. The specific gravity of the urine was very low—1000½ to 1001—and it looked like water. It was undoubtedly passed from the urinary apparatus, according to the best information I am able to obtain, and she would pass a chamberful during the morning in her grandmother's presence.

This condition gradually changed; the urine became normal in amount; there would be at times a little febrile condition which was hard to account for. The patient lost considerably in weight during the time, but has since gained ten pounds in four weeks. She has no goitre, there has never been any sugar in the urine, and she complained of nothing at any time except some indefinite headaches and pains along the spine.

In my entire experience I have never met with such an extreme condition of dysphagia of such long persistence. I felt sure that on account of the excessive amount of mucus I had to deal with a pouch

of the esophagus, instead of a purely nervous condition, which it proved to be. She has improved, although her pulse is still rapid; she has had no further nervous attacks. The mucus undoubtedly came from the esophagus, as when the stomach-tube was withdrawn it was covered with a large quantity of mucus in every instance; especially was this true upon the upper part of the tube. It shows that we have here a most remarkable case of excessive secretion from the mucous glands which are abundant in this locality, due to some peculiar nervous derangement, just as we have an increased secretion of urine from a similar cause. We know that in hysterical cases there is sometimes an enormous quantity of urine passed. In diabetes insipidus, with no nerve lesion which can be determined, we have a tremendous amount of urine.

During the time that only a small quantity of food was being taken I had to give purgatives. After that the bowels acted normally. This girl came from a very nervous family. Her menstrual function had been irregular, and the flow was small in amount.

I report the case as being rather unusual, and showing how careful we must be in making our diagnoses.

The treatment consisted in rest in bed, massage, iron and strychnine in large doses.

A PLEA FOR PAY HOSPITALS FOR CONTAGIOUS DISEASES.

BY J. H. ADAMS, M.D., OVERBROOK, PA.

As our conception of contagion spreads and deepens, so does our ability to cope with this gigantic force increase, until to-day we are far in advance of thirty or even ten years ago. As our knowledge grows, so do our needs grow, and to-day we accept as necessary treatments and auxiliary forces which would have been regarded as useless or ridiculous years ago. With the increased knowledge of the infectiousness of pulmonary tuberculosis, we are able to fight off this great white plague to a greater advantage; by the use of antitoxins we are increasing our chances of success. The inevitable result would be seen to be, if not too optimistic in its tone, that it is probable that the day will come, and soon too, when scarlet fever, diphtheria, and even pulmonary tuberculosis, will be largely under control; when it will be signs of negligence on the part of some one if these conditions are allowed to appear and spread. It would seem that the diseases of the future will be more along the lines of stomachic, hepatic, and nervous conditions. These are the conditions that are most prominent in our busy American life to-day.

Along this line of advance comes the question of hospitals for contagious diseases. Hospitals for these diseases are not new institutions in American or foreign civic life, but they have been used rather for the unfortunate who has neither the means nor the home on which to depend. The idea of sending a patient *by preference* to a hospital for contagious diseases is rather a recent growth, and has not entered as yet far into the minds of the general medical profession. The writer had knowledge in a general way of the value such hospitals might possess if properly managed, but not until within a year had he the practical opportunity of possessing actual experience in this line. A year ago, while in New York, a member of his family grew suddenly ill and developed in a few hours a severe case of diphtheria. Antitoxin was at once given her, and the question came up of the proper place for her treatment. She was in a hotel not fitted for her isolation or careful nursing. It was necessary to move her to a better place. At the moment the attitude of the hotel manager was unknown, but it was quickly learned that he had the power of actually expelling such cases from his house if he so desired. The city hospital for contagious diseases was in bad repute, having fallen largely into political hands, and my New York consultant said it would be unfortunate to be compelled to send her there. However, on the grounds of the city hospital was a semi-private "pay hospital" for contagious diseases, to which she was finally sent.

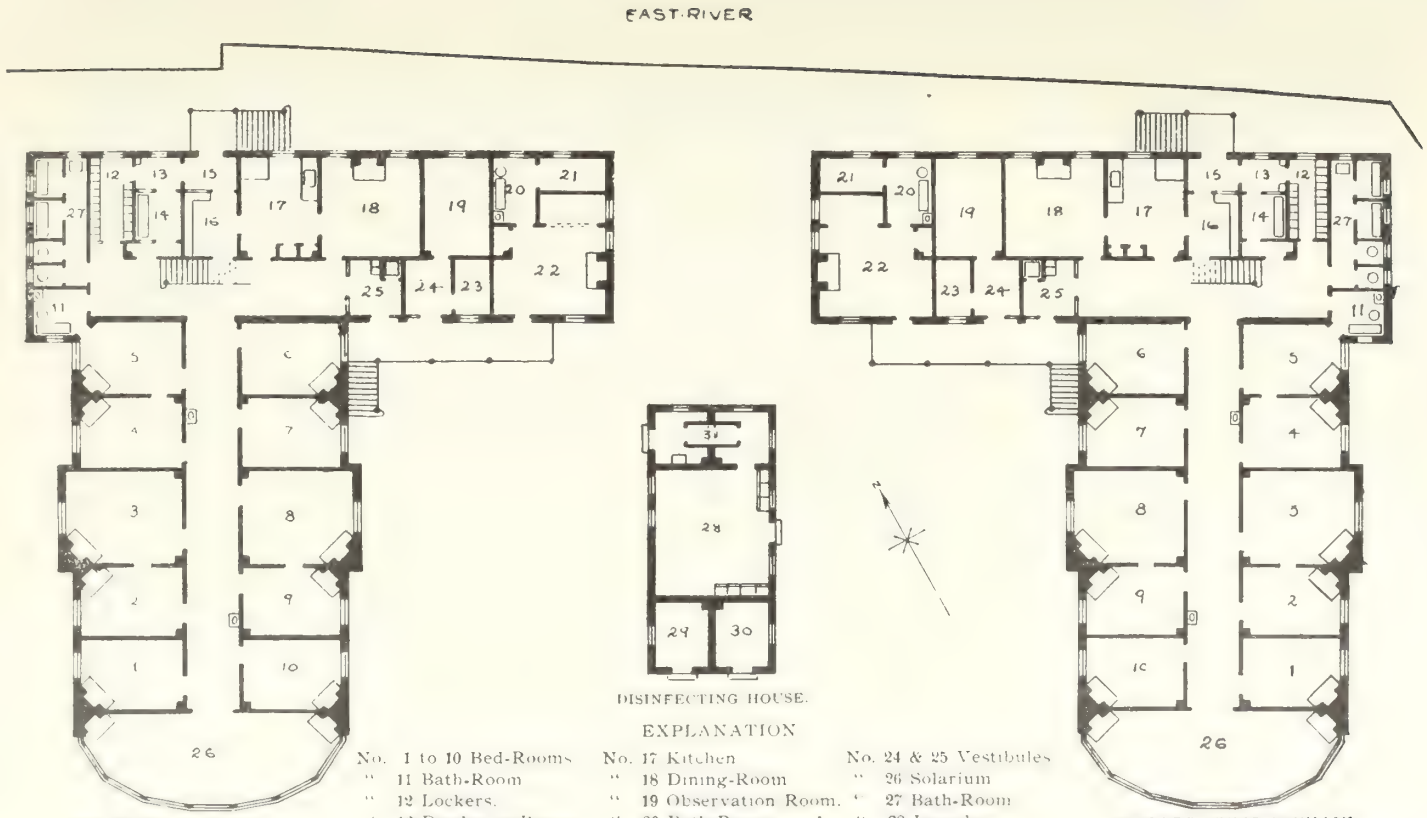
It is not the purpose of this paper to dilate on the treatment the child received there, or the special points of excellence of the "Diphtheria and Scarlet Fever Hospital," but it must be acknowledged that with nurses trained to do their work again and again, and with a resident physician who speedily acquires especial skill, she received such perfect treatment that within twenty-four hours she began to improve; within seventy hours she was largely out of danger, excepting possibly from the danger of heart paralysis, which no treatment removes from this dread disease. The disease wherever it was found was treated as an open sore, and the parts thoroughly cleansed every hour until the membrane largely came away. The prompt and reliable methods of disinfection of clothing, etc., are far more possible under these conditions, and the child came home in excellent shape and with all of her possessions and treasures which she had gathered on the trip still intact.

While such a hospital is theoretically so welcome to a city or a village, in Philadelphia we have practically found the idea difficult to develop, because of the impossibility of securing an available site. I threw myself into the movement for such a hospital here, but the people of each selected neighborhood have risen in their might when

the hospital was to be settled in their midst, and now to-day, with several sites offered to us as gifts, and with money to build, the managers of the Philadelphia Hospital can find no place to put their worthy project. In New York this question was settled by placing the hospital on the grounds of the City Hospital, but with us the Municipal Hospital for Contagious Diseases is being fought in its old site, and people are endeavoring to send it out farther to the city's limits; and hence the idea of another hospital on the old site, which has been gradually surrounded by a good class of residences, would probably bring another storm of disapproval.

But the day of the pay hospital for contagious diseases is coming in Philadelphia as well as elsewhere, and within a decade the idea of going voluntarily to such an institution will become a common occurrence with our great American public.

Another great stumbling-block has been the ignorance of architects on the subject of contagion, and they have drawn up elaborate designs which permit of no precautions at all. Undoubtedly the simplest plans are the best; the less chance of the possibility of contagion, the better is the design. The plan of the so-called "Minturn Hospital," so named for its principal benefactor, is as good as any, where care and precaution are to be preserved. There should be no rotundas, no bringing of patients in through general entrances, etc., but instead a simple pavilion, one for each description of contagious disease, completely isolated from its mates. The accompanying plan of the New York hospital is worthy of study, and one's respect for it increases as one tries to alter or improve upon it. The diphtheria pavilion has an entrance for patients simple and small, merely a vestibule and moderate size porch. This vestibule is used for the visiting physicians to robe and disrobe in when entering the hospital. They wear long white muslin gowns with cap to protect the head. Outside also is the resident physician's bedroom and laboratory, with also an examining-room to diagnose doubtful cases. Within the pavilion everything is simplicity itself; each room is isolated from its fellows and has a large fireplace for ventilation. The ceilings are high and the system of ventilation very complete. The floors are of hard wood, and the surbases are of slate; the walls are painted and capable of thorough cleansing. There are two kitchens, complete and separate, one for nurses and physicians, the other for the patients. There is a solarium for convalescent patients, but no dining-room, except for nurses and doctors. The method of discharge from the hospital is a good one; when the patient's throat is shown to be sterile after repeated tests, he is thoroughly disinfected and discharged from a separate exit, not using the entrance at all. Contact is regarded as


EAST RIVER
DIPHTHERIA PAVILION.
DISINFECTING HOUSE.
SCARLET FEVER PAVILION
EXPLANATION
No. 1 to 10 Bed-Rooms
" 11 Bath-Room
" 12 Lockers.
" 13 Discharge-Room.
" 14 Bath-Room.
" 15 Vestibule
" 16 Pantry.
No. 17 Kitchen
" 18 Dining-Room
" 19 Observation Room.
" 20 Bath-Room
" 21 Laboratory
" 22 Doctor's Study
" 23 Examination-Room
No. 24 & 25 Vestibules
" 26 Solarium
" 27 Bath-Room
" 28 Laundry
" 29 Office.
" 30 Watchman.
" 31 Disinfecting Tank.

contagion, and hence the patient comes in one way and goes out another. A very pleasant feature which has grown up in the hospital is the admission of relatives and friends to the wards to live there during the patients' illness. They are admitted at the "discharge door," where they leave their own clothing and put on fresh hospital clothes. Coming in in this way, on leaving they are disinfected in a similar manner to the patient's process, and resume their own uninfected clothing in the outside discharge room. This factor of admitting patients' friends is a pleasant feature for them, while it admits of an increased revenue for the hospital.

The disinfecting plant is placed between the scarlet fever and diphtheria pavilions, and here all clothes, etc., are disinfected by the use of formaldehyde under pressure.

A COOPERATIVE society has just been organized in Paris, says *The Lancet*, with a view to open in the Latin Quarter a restaurant for the exclusive use of students. This restaurant will be carried on under special conditions of a nature which will be eminently suitable to the student's purse, which is never too well furnished. The total capital is to be 30,000 francs, divided into 1200 shares of 25 francs each. The sum to be paid on application is one-tenth—*i.e.*, 2.50 francs—being the smallest proportion allowed by the law to be paid on application, so that the poorest student will be able to apply. The remainder of the sum—namely, 22.50 francs—will be paid off by instalments of five centimes at every meal, so that after 450 meals, or in seven and a half months, the student, almost without knowing it, will have fully paid up his holding. The share will carry interest at the rate of four per cent, the maximum allowed by law whatever be the profits. The latter will be divided proportionally to the meals taken. This philanthropic notion has been warmly welcomed in university circles, and the managing committee teems with the names of the most distinguished graduates. A meeting of shareholders will be held to decide sundry questions, such as whether meals shall be served *à la carte* or *à prix fixe*, whether past students shall participate, and whether students may bring guests, and the like. The provisional committee hopes to open the restaurant in February next. The idea is derived from that of a working men's society at Lille, which was opened eight years ago. Commencing with ten members and a capital of ten francs, it now numbers 6000 families and possesses a recreation room, a library, a benefit club, a savings bank, a brewery, a bakery, and other branches. The bakery in 1899 made a profit of 200,000 francs. These results are encouraging for French students.

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

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EDITORIAL ARTICLES.

THE CENTURY'S ADVANCE.

The beginning of a century has been found a fitting occasion to estimate the additions that have been made to human knowledge during the past 100 years. It would be impossible to indicate all the salient points of this progress, and while it cannot but be felt that posterity will look backward with pride and admiration on the achievements of the past century, yet those who are destined to live out the larger portion of the present century will doubtless find within their grasp truths of infinitely greater importance than those which have been vouchsafed to the century now past.

If it were asked, what is the most important discovery of the century from the standpoint of medicine, perhaps it could only be answered, from the standpoint of biology as a whole, that away and beyond all other discoveries in importance was that of the law of evolution, to which Charles Darwin furnished the true key. It was this doctrine which formed the basis of the vast upheaval which revolutionized one by one all the sciences. Next, perhaps, in importance has been the far-reaching doctrine of the conservation of energy, and its allied discovery of the correlation of the physical forces. Upon these two doctrines immense practical results have depended.

In the purely medical world the discoveries of anesthesia and antisepsis hold first place among the beneficent achievements which have led to a diminution of the physical troubles of mankind.

The future cannot but contain truths of stupendous importance. There are already visible faint adumbrations of truths which will revolutionize many well-accepted doctrines. The ultimate constitution of matter and the nature of the all-pervading ether are as yet speculative problems just beginning to assume the rank of definite conceptions through the work of Roentgen and Marconi.

The present century will perhaps see tuberculosis stamped out, will find syphilis mitigated to mildness in all its forms, will find all acute diseases combated with their natural antitoxins, and will see the problems of sanitation conducted to successful issues, in fields of application of which the most sanguine have hitherto not dreamed.

EDITORIAL NOTES.

The Use of Sugar by Diabetic Patients.

In a clinical lecture Lepine, of Lyons, recently related the case of a man over sixty years of age who had been a sufferer from diabetes for nearly twenty years, passing daily sixty ounces of urine which contained on an average 1800 grains of sugar. The man having recently become afflicted with influenza to the extent of being so feeble as not to be able to leave his room, and believing his case hopeless, commenced putting sugar in his tea and coffee, his average daily dose amounting to about 700 grains. The individual was greatly surprised to find no ill effect resulting from its use. He even began to improve.

Lepine says that nearly forty years ago this was advocated by a number of physicians upon purely empirical grounds, and he suggests that the profession might do well to make a number of well-guarded experiments with small amounts of saccharine substances in the treatment of this affection.

Protection Against Malaria.

Professor Grassi's last experiments, undertaken at Pæstum, have had the twofold object of proving that malaria can only be transmitted by the bites of Anopheles and also of demonstrating a practical means of preventing malaria based upon this discovery. Grassi took a certain district, and laid down preventive rules. These rules were to keep within the protected dwellings from sunset to sunrise, and, in the case of officials who had duties during this time, to wear light veils and thick cotton gloves. The houses were protected everywhere, even the chimneys, with wire netting. All persons under observation, numbering 104, were visited twice a day. Precautions were taken against their procuring any quinine, and yet all continued free from malaria. In the country surrounding the protected zone the disease was general, and affected by far the majority of the inhabitants, even when living on farms in high situations. It was thus shown that protection from the bites of Anopheles was an entirely feasible proceeding.

ITEMS AND NOTES.

Rabies is reported epidemic in Rochester.

Buffalo is soon to have a new accident hospital.

A nursery for blind babies has been established in Boston.

Smallpox is epidemic in the lumber camps in northern Michigan.

Pneumonia is reported as epidemic in Chicago. It is, however, of a mild type.

Typhoid fever prevails widely in Galveston, there being at present over 500 cases.

Many of the inhabitants of Porto Rico are reported to be on the verge of starvation.

Kansas City is to have a new pest-house capable of accommodating eighty patients.

The Baltimore University Hospital was recently damaged by fire to the extent of $1500.

The death of Professor Podreze, of Charkow, the eminent Russian surgeon, is announced.

Hog cholera is carrying off hundreds of swine in the region about Zion City, Illinois.

A severe epidemic of grippe is reported from Boston, and the hospitals are filled to the doors.

Dr. A. J. Stone has been succeeded in the editorship of the *Northwestern Lancet* by Dr. W. A. Jones.

The Iowa College of Physicians and Surgeons has been merged into the Drake University, Des Moines.

The State Board of Health of Illinois has recommended the building of a State sanitarium for consumptives.

The local smallpox scare in New York City has caused the number of vaccinations to break all previous records.

Up to September 30 typhoid fever occurred in 15,650 British soldiers in South Africa, with a mortality of 3741.

THE Michigan State Board of Registration has refused license to practice to about forty applicants in Wayne county.

DR HOWARD A. KELLY, of Baltimore, recently sustained by fire a damage of nearly $3000 to his books and laboratory.

THE medical profession of Germany has sanctioned the imperial bill lengthening medical study to at least five years.

IT is proposed by the New Orleans Health Department to introduce the Bertillon system of classification of causes of death.

THE new morgue building in Buffalo when completed will be one of the most modern and complete of its kind in this country.

THE Board of Health of the City of New York has decided to build a laboratory to be devoted to the study of bubonic plague.

DR. HIRSCH, the famous surgeon who attended the Czar in his illness, has had conferred on him the Order of Alexander Newski.

PHILANTHROPIC citizens of Minneapolis have generously subscribed $24,000 for a new detention hospital on the City Hospital grounds.

IT is estimated by Professor Celli that there is in Italy an annual mortality of 15,000 due to malaria. He also says that 5,000,000 acres of good soil remains uncultivated.

DR. KINYOUN, of the Marine Hospital Service, reports from San Francisco six more fatal cases of plague. He also says in his report that the infected area is increasing in size.

THE Mary Thompson Hospital, the Presbyterian Hospital, and St. Luke's Hospital, of Chicago, have been paid by the executors of the will of the late George M. Pullman $10,000 each.

THE University of Pennsylvania exhibit, which was one of the most complete in the Paris Exposition education department, will be brought to Buffalo for the Pan-American Exposition.

DR. HERMAN KNAPP has presented to the New York Ophthalmological and Aural Institution a gift in the form of a deed of the buildings at present occupied by it, namely, Nos. 44–46 East Twelfth Street.

THE General Hospital Society of Connecticut will allow Yale University to erect a clinic building for its medical school on the hospital grounds in New Haven. The cost of the proposed building is $3500.

THE Kansas State Board of Health has prepared a bill which will be introduced during the winter session of the legislature, which provides for the establishment of a State board of medical registration and examination.

THE Medical Department of the University of Buffalo is in receipt of a gift of $50,000 for the purpose of erecting a laboratory to be devoted entirely to research work. It will be known as the Gratwick Research Laboratory.

IT is proposed to erect a monument in memory of the late Prof. Camara Pestana, who fell a victim to his devotion to scientific research in the recent epidemic of plague at Oporto. A considerable sum has already been subscribed for the purpose.

A BILL has been introduced into the French Senate as a remedy for the decreasing birth-rate. It is proposed to impose a tax upon the unmarried of both sexes after they reach the age of thirty, and upon childless couples who have been married five years.

A SPECIAL supplement to the German magazine the *Kleiner Journal* is to be published by a medical editor, with the title of the *Kleiner Journal f. Hygiene*. The purpose is not merely to disseminate knowledge in regard to hygiene, but to educate the public in regard to quacks.

MME. LESNIEVSKAJA is the first woman in Russia to receive the degree of Master of Pharmacy. She has also secured from the government the necessary authorization to open a pharmacy in Moscow, in which connection there will be a chemical laboratory and a school for women pharmacists.

A MEMORIAL in honor of Bernhard von Langenbeck has been placed by the medical officers of the Prussian army in the great hall of the University of Berlin. It was recently formally handed over by Dr. von Coler, surgeon-general of the Prussian army, to Professor Harnack, rector of the university.

DR. J. ALLISON HODGES, formerly of North Carolina, and for several years past professor of nervous diseases in the University College of Medicine, Richmond, Va., has been elected to the presidency of the college, to succeed the late Dr. Hunter McGuire. Dr. Hodges has held successively the offices of corresponding secretary, proctor, and dean of the institution.

ACCORDING to the *Journal of the American Medical Association*, Goodwin Brown recently contended before the industrial commission

that vigorous legislation was necessary to protect the country from the influx of insane immigrants. He declared that quite fifty per cent of the patients in the New York State insane hospitals were foreign-born. The foreign-born insane are said to cost that State over $1,000,000 annually.

THE Roman correspondent of *The Lancet* for December 15 states that among the recent interesting finds in the Roman Forum is a statue of Æsculapius. It was lying face downward under the central niche of the large arched space surrounding the Well of Juturna, which has lately been excavated under the direction of Professor Boni. The head of the figure and the middle of the right arm are wanting, but the other parts are well preserved. It represents the god with a volumen (or roll of paper or parchment on a stick) in the left hand, leaning on his staff, round which is coiled the serpent, the symbol of prudence and renovation. Close to the staff is a child, supposed to be Camillus or Telesphorus, the genius of recovery, in the act of bringing the offering of a cock in his left hand and holding in his right hand a small knife with a pointed blade. The well enjoyed a reputation for the salubrity of its water, and this fact explains, no doubt, the presence in its precints of the statue of the god of medicine, under whose special protection such wells were placed. The worship of Æsculapius is said to have been introduced into Rome from Epidaurus about 293 B. C., but this statue, which is of indifferent workmanship, belongs to a much later period, probably the first or second century of the Christian era.

AT a recent meeting of the Berlin Society for Public Health Dr. Neumann gave an account of an interesting investigation made by him as to the condition of illegitimate children. With the assistance of various associations, public officials, etc., he was enabled to collect full particulars relative to no less than 7229 children born out of wedlock in 1897. He noted whether the child was born in a hospital, an asylum, etc., or in a private house; whether it was subsequently legitimatized by the marriage of the parents; whether the mother took care of it afterward, or whether it was left in charge of other persons or handed over to the district council for orphans; whether it was alive after one year, and if not, at what age it died. Dr. Neumann has obtained the remarkable result that about fifty per cent of these children were taken care of during the first year of life either by their mothers or by both parents, and that about 5000 out of 7200 required no assistance from the district councils for orphans. Dr. Neumann then made some recommendations, the principal one being that homes should be established where pregnant women could live during the

last months of pregnancy. Unmarried women, after they were discharged from the lying-in hospitals, ought to be provided for until they were able to resume their employment. Illegitimate children ought to be attended by specially appointed medical men and nurses under the control of the municipal authorities, and a special council ought to be formed whose duty would be to look after these children, as has already been done in Leipzig. Owing to the fact that assistance was required for only about thirty per cent of the illegitimate children, the work of the council and the expenses incurred by the municipalities would be less than might be expected.

In the *Archiev Pathologyi* for August, 1900, Professor Gietes, a French writer, describes the organization of the Imperial Chinese University at Peking. The influx of modern ideas into China and the sympathy for western civilization which is manifested by the young Chinese emperor were responsible for the founding of the new imperial university. The buildings are situated next to the palace, and were opened for instruction on January 1, 1899. The university is temporarily placed in a series of old palace buildings which surround a central hall, in which are kept the sacred tablets containing the teachings of Confucius. At the time of opening the university, the Chinese government deposited in the Russo-Chinese Bank a large sum, the interest whereof should serve for the construction of a thoroughly equipped building for the university. At present the university represents a very primitive educational institution of a mixed type. The faculty consists of eight foreign professors, sixteen assistants or interpreters, eight Chinese professors, and thirty-two secretaries. The institution is divided into six parts or schools—the English, French, German, Russian, Japanese, and medical. The English department had the most students during the past year, namely, one hundred and ten; the smallest number of students registered in the medical school —ten. There is only one professor in the medical department, Dr. Coltman, an Englishman. Students seeking admission must not be under eighteen years of age, and among the students there are middle-aged married men. The instruction is free, and the students are also provided with lodging and servants, but must board at their own expense. Tea is served to everybody, including students and instructors, during the hours of instruction. The smoking of opium is strictly forbidden.

NEW PUBLICATIONS.

THE AMERICAN TEXT-BOOK OF PHYSIOLOGY.

The project of compiling a text-book of physiology by means of individual contributions has been brought to a high state of perfection in the present manual. The new edition has been thoroughly revised to keep pace with modern progress. How fast this progress is is shown by the chapter on the Nervous System, which has had to be entirely rewritten. The collaborators are among the best known workers and teachers in physiology. The labor of condensing the vast literature of experimental physiology and submitting it to the reader has been done with ability and discretion. The publishers may proudly point to this work as being the best presentation of the subject-matter accessible to the scientific reader.

An American Text-book of Physiology. By Henry P. Bowditch, M.D., *et al.* Edited by William H. Howell, Ph.D., M.D. Second Edition, Revised. Vol. I: Blood, Lymph, and Circulation; Secretion, Digestion, and Nutrition; Respiration and Animal Heat; Chemistry of the Body. Philadelphia: W. B. Saunders & Co.

SAUNDERS'S QUESTION COMPENDS.

The essentials of history are displayed in limited space and convenient form in this manual. The illustrations are numerous and admirably fulfil their purpose of elucidating the text.

Saunders's Question Compends No. 25. Essentials of Histology. By Louis Leroy, B.S., M.D., Professor of Histology and Pathology in Vanderbilt University, Medical and Dental Department; City Bacteriologist to Nashville, Tenn.; Bacteriologist to the State of Tennessee, etc. Arranged with Questions following Each Chapter. Philadelphia and London: W. B. Saunders & Co., 1900.

THE TREATMENT OF FRACTURES.

Dr. Estes has given the profession a practical and useful little manual of fractures. His book is entirely the result of practical experience, and it therefore breathes a clinical spirit which will commend it to those seeking information in this most essential department of surgery.

The Treatment of Fractures. By W. L. Estes, A.M., M.D., Director, and Physician and Surgeon-in-Chief of St. Luke's Hospital, South Bethlehem, Pa. New York: Published by the International Journal of Surgery Co.

URINARY DIAGNOSIS.

This little book gives all the usual methods of urinary diagnosis, but is especially valuable for its frank discussion of the clinical significance of urinary deposits. The illustrations are good, and the manual will meet the needs of the busy practitioner.

Urinary Diagnosis and Treatment. By John W. Wainwright, M.D. Chicago: G. P. Engelhard & Co., 1900.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Hernia in Children.

From his observations and studies of the available literature on this subject, A. J. Ochsner (*Journal of the American Medical Association*, Dec. 22, 1900) is led to the following conclusions:

1. The development of herniæ in children is favored by (*a*) faulty development of the abdominal wall; (*b*) insufficient strength in the tissues involved in closing the umbilical, inguinal, or femoral openings; (*c*) abnormal intra-abdominal pressure; (*d*) unclosed condition of the tunica vaginalis.

2. The causes *a* and *b* are likely to be inherited.

3. The abnormal intra-abdominal pressure is due (*a*) to gaseous distention resulting from improper feeding; (*b*) to the exertion necessary to accomplish defecation in case of chronic constipation; (*c*) to the same exertion necessary to evacuate the bladder on account of obstruction due to phimosis; (*d*) to severe, long-continued coughs.

4. A large majority of all cases of hernia in children will heal spontaneously if the increased intra-abdominal pressure is relieved, the hernial sac being kept empty.

5. This can be accomplished by means of trusses, or, much more rapidly, in inguinal and femoral hernia, by placing the child in bed with the foot of the bed elevated, the time required usually not exceeding six weeks.

6. Children with a tendency to the formation of hernia should be guarded against developing coughs.

7. Their diet should be given at regular times and chosen with a view to avoiding gaseous distention.

8. Constipation should be entirely prevented.

9. In case of boys, phimosis should be relieved if present.

10. Badly nourished and badly cared for children of the poor should be treated in hospitals, being placed in bed in the inverted position, the cause of increased intra-abdominal pressure being removed at the same time by proper treatment.

11. Operation is indicated (*a*) in strangulated hernia; (*b*) in irreducible hernia due to adhesions; (*c*) in case the opening is unusually large in a free hernia, especially if the condition is hereditary and the hernia cannot be retained by means of a truss; (*d*) in reducible hydrocele.

12. Except in class *c*, the operation should consist simply in carefully dissecting out the sac, ligating it within the abdominal cavity, cutting away the sac and permitting the stump to retract within the abdominal cavity, and simply closing the wound in the skin.

13. The recumbent position, with the foot of the bed elevated, is of very great importance in the operative as well as in the non-operative treatment of herniæ in children.

14. If the child cannot be kept in this position sufficiently long, a well-fitting truss should be worn night and day until there has been no protrusion for at least six months, at the same time the necessary precautions being constantly taken to guard against intra-abdominal pressure from any cause.

Operative Treatment in Pulmonary Phthisis.

H. Sarfert (*Medical Press*, Dec. 19, 1900), at a recent meeting of the Berlin Verein für Innere Medizin, discussed the question of operative treatment in pulmonary phthisis.

After enumerating reasons for operating, the speaker said that the difficulty lies in the selection of cases. Operation alone can assist, as nothing can be done by any other means. Up to the present, however, it cannot be denied that poor results have followed operation. Frequently the chief seat of disease has not been hit upon. Often the other lung is diseased, and often there is amyloid disease. Disinfection has not helped, and frequently the drains do not act. A condition of success is that there should not be a number of cavities in the lung, but only one large cavity near the surface of the lung. These conditions are only rarely present, but if they are present only once in a thousand cases operation is then justifiable. Above all things, the patient must not be too much run down. It is not necessary to remove all the diseased structure, for as in resection of a tuberculous joint the irritation set up by the trauma leads to reactive inflammation, adhesions, and formation of cicatrices, with elimination of the diseased tissues. He has seen tuberculous peritonitis cured by simple laparotomy.

As regards technique, Sarfert opens the chest with a wide incision, so that the cavity may be palpated. He has performed about 150 operations on the cadaver, in order to learn the best method of operating. He recommends the incision over the second rib into the axilla, to ligature the small vessels, to cut through the muscles, to lay open the ribs, cut them, or better still break them, and then open the cavity by means of the Paquelin cautery. Opening into the pleural cavity need not be feared, as in old cases the two surfaces of the pleura are glued together.

Lumbar Hernia.

At a recent meeting of the Berlin Medical Society, H. Borchardt (*Medical Press*, Dec. 19, 1900) gave a communication on lumbar hernia, with demonstrations. There were three groups. In the traumatic, which comprised twenty of the forty-seven cases collected, trauma scarcely anywhere played such a part as it did in lumbar hernia; falls from a height, a blow from a carriage-pole, sabre cuts, perforating gunshot wounds, etc., were the causes to which the mischief was attributed, two in consequence of suppurations. There were also twenty-two cases in which the hernia was said to have come on spontaneously. In a number of cases no etiological reason could be ascertained; in others, pregnancy and weakness of muscles in old people were given as the cause. After deducting all the above cases there still remained a small number which were congenital. He showed a boy, aged fifteen months, who was much emaciated from intercurrent bronchitis, who had a semispherical protuberance between the chest and crista ilii. This varied in size; it was small when the infant was at rest, and large when it cried. The tumor could be made to disappear by taxis. Within it could be felt, along with loops of intestine, the enlarged spleen and the left kidney. In three cases the hernia had been bilateral, and in the infant shown there was weakness in the muscles of the opposite side. Only four of the cases had been operated on, as strangulation is very rare in such herniæ. A case was operated on, however, by Ravaton in 1738, which recovered.

Etiology and Pathogenesis of Appendicitis.

Kleckiego (*Przeglad Chirurgiczny*, iv, 586; *British Medical Journal*, Dec. 8, 1900) has investigated experimentally the causation of appendicitis, and finds that the chief cause resides in the infection of the appendix vermiformis or in the action of the products of the microorganisms which invade this organ. It is not yet known which of the intestinal microbes is the chief agent in appendicitis. In artificially produced appendicitis in the rabbit the author has noted an increase in the virulence of the bacterium coli commune. Further experiments by Kleckiego show that (in the rabbit) appendicitis may also be determined by diminished resistance in the organ. The infection is always secondary to factors which act indirectly by creating a morbid predisposition or by acting in an accidental fashion. In this category must be placed certain anatomical peculiarities of the appendix (excess of length, deformity, displacement), mucomembranous enteritis, scybala, foreign bodies, etc. The many pathogenic theories of

appendicitis all emphasize this or that secondary factor, neglecting all the others; under this heading come the "appendicular colic" theory of Talmon, and the "closed cavity" theory of Dieulafoy.

The Eustachian Bougie.

L. B. Lockard (*New York Medical Journal*, Dec. 29, 1900) says that the bougie, except when used as an electrode, is applicable in two conditions only—stenosis and tinnitus.

The therapeutic effects are uncertain; sometimes harmful, frequently beneficial.

It effects its purpose in two ways—by pressure upon contracted tissue and by reflex influences upon the auditory center.

It should be given a thorough trial in all cases that have resisted other procedures.

Its use must be stopped upon the first sign of increase in the local trouble.

If care is taken, the dangers said to attend its application will be accidents of the greatest rarity.

It has a definite field in aural surgery.

MEDICINE.

On the Causation of the Congenital Stridor of Infants.

J. Thomson and A. L. Turner (*British Medical Journal*, Dec. 1, 1900) say that the primary element in the causation of this condition is a disturbance of the coordination of the respiratory movements, probably due to some developmental backwardness of the cortical structures which control them.

That the change of form found is merely an exaggeration of the normal infantile type, and is mainly if not entirely the result of a constantly recurring sucking-in of the upper aperture of the soft larynx, which is induced by the ill coordinated and spasmodic nature of the breathing; that it is, in fact, an acquired deformity strictly analogous to pigeon breast.

That there is no proof that any congenital malformation of the upper laryngeal aperture exists in these cases.

That the supposition of a congenital deformity is not essential to account for the symptoms, inasmuch as normal babies crow in a very similar manner when they are coming out of chloroform.

That the sounds are not produced in the pharynx. This is proved by the high-pitched phonic character of the crow, and also by the fact

that the stridor persists, not only when the nostrils are closed, but equally when the mouth is occluded by the nipple, when the tongue is depressed by a spatula, and during yawning. That they are not produced in the trachea by compression exerted by a large thymus or enlarged lymphatic glands, the authors conclude on two grounds: First, because in none of the fatal cases of congenital stridor recorded have they seen enlargement of the thymus or lymphatic glands noted; and secondly, because in two cases which they have examined, in which compression of the trachea by enlarged bronchial glands was found after death, the symptoms were of a very different type. In these cases the stridor was mainly expiratory, the larynx did not move up and down with respiration, as it does in cases of intralaryngeal obstruction, and there was much greater respiratory distress. The stridor is probably produced partly in the larynx proper, and partly at the abnormally approximated aryepiglottic folds.

That the neurosis causing the symptoms has not in the authors' experience seemed to depend on the presence of adenoid growths or other obvious causes of reflex irritation.

Family Periodic Paralysis.

This name, although of no scientific value, is applied to a rare and interesting condition, a case of which is reported in the June number of the *American Journal of Medical Sciences* by Leo M. Crafts, of Minneapolis.

The subject was a commercial traveler, aged thirty-five, of waddling gait and abnormally developed legs, hips, and thighs; his strength, however, not at all corresponding, and his power of endurance being very small.

Family history is distinctly neuropathic, but traced back three or four generations was negative. When twelve years old he was awakened by disturbances caused by sickness in the house, and tried to get out of bed, but found that he had little control of arms and legs. He finally, with great difficulty, got upon his feet and to the head of the stairs. Sliding down from step to step, he fell in a heap at the bottom, was picked up and carried to bed, and there remained for two days, entirely unable to move any extremity. Consciousness was lost for a brief period only. He got up on the third day, and had no other attack for three years, but attacks have occurred at intervals since, some of them quite severe. They seem to have followed periods of great exhaustion and overexertion. The onset is always gradual, and the attacks last from a few hours to about three days. Too great activity, when an attack is subsiding, seems to induce a return.

In the extreme condition, all muscles of extremities, body, and neck are entirely relaxed; abdominal muscles are without tone; tendon reflexes are abolished, the plantar also, but the cremasteric at times slightly presents. There is no desire for food, and vomiting is frequent. Distressing hiccough has occasionally developed. Return of motion first appears in the arms.

The blood shows, during the attack, a marked lymphocytosis. The urine shows chiefly an increase in the ethereal sulphates. From the feces was extracted a poison, the injection of which into rabbits and guinea-pigs produced a paralysis, which subsided gradually in forty-eight hours. This investigation pointing to a definite poison, although it is as yet impossible to say to what group it belongs, seems to be the first pathological light upon this interesting condition.

The Etiology of Dysentery.

We may, says Dr. Simon Flexner (*Journal of the American Medical Association*, Jan. 5, 1901), sum up the present knowledge of the cause of dysentery in the following way:

1. No bacterial species yet described as the cause of dysentery has an especial claim to be regarded as the chief microorganism concerned with the disease.

2. It is unlikely that any bacterial species that is constantly and normally present in the intestine or in the environs of man, except where the disease prevails in an endemic form, can be regarded as a probable cause of epidemic dysentery.

3. The relations of sporadic to epidemic dysentery are so remote that it is improbable that the two diseases are produced by the same organic cause.

4. The pathogenic action of the ameba coli in many cases of tropical and in certain examples of sporadic dysentery has not been disproved by the discovery of amebæ in the normal intestine, and in diseases other than dysentery. While amebæ are commonly present and are concerned in the production of the lesions of subacute and chronic dysentery, they have not thus far been shown to be equally connected with the acute dysenteries, even in the tropics. In the former varieties, bacterial association probably has much influence on the pathogenic powers of the amebæ.

Formalin or Other Fixing Vapor Followed by Absolute Alcohol as a Wet Method for Blood Films.

G. Scott (*Journal of Pathology and Bacteriology*, December, 1900) advocates the following method:

1. Hold the wet film, wet side down, in the mouth of a wide bottle half filled with ordinary forty-per-cent solution of formic aldehyde for about five seconds.

2. Drop, while still wet, film downwards into absolute alcohol. Leave fifteen minutes, or, if more convenient, as long as forty-eight hours.

3. Blot off excess of alcohol, and move cover-glass to a dry part of the blotting-paper.

4. Immediately, before any drying occurs, drop on a few drops of eosin-methylene-blue stain with a dropping pipette; cover with a watch-glass to prevent evaporation and consequent precipitation; stain for two minutes, not any longer.

5. Allow excess of stain to run off the cover-glass and rinse at once in a bowl of distilled water, and then in fresh distilled water.

6. Blot off excess of water.

7. Dehydrate very rapidly in absolute alcohol, merely dipping in and out as rapidly as possible.

8. Wash off alcohol in first xylol rapidly; washing in second xylol; drop on fresh xylol.

9. Mount in xylol balsam.

Pigmentation Cirrhosis of the Liver in a Case of Hemochromatosis.

M. E. Abbott (*Journal of Pathology and Bacteriology*, December, 1900) says that in general hemochromatosis some primitive agency, as yet unknown, is at work leading to (*a*) an increased destruction of the hemoglobin taking place either in localized hemorrhages, or within the blood stream, or perhaps sometimes within the parenchymatous cells themselves; (*b*) a degeneration of the cells of certain organs by which they become unable to throw off the granular pigment deposited in them, and, becoming loaded, finally disintegrate. The cirrhosis would seem to be of the nature of a chronic interstitial inflammation, secondary upon the presence in the tissues of the pigment set free after the destruction of the parenchymatous cells.

These facts suggest that the primitive agency, leading alike to blood destruction and to cell degeneration, may be bacterial in its nature.

The Germicidal Power of Ethylic Alcohol.

Bertarelli (*Il Policlinico*, Oct. 1, 1900) has tested the germicidal properties of ethylic alcohol in various strengths, from 25 per cent to 100 per cent. Silk threads were impregnated with various bacilli (for

example, B. prodigiosus, pyocyaneus, staphylococci, vibrio, B. typhoid, etc.) and then immersed in alcoholic solutions of varying strength. From these researches alcohol appears to have only a moderate antiseptic value, and the more concentrated the solution the less the antiseptic power; 50-per-cent solutions are the most efficacious. Perhaps the reason of the comparative inefficacy of the stronger solutions is due to the fact that they cause greater coarctation of the peripheral masses of bacilli, and so leave the central masses more or less untouched. In spite of its low bactericidal power alcohol hinders the development and later vital manifestations of the microorganisms. Alcohol appears to have an inhibitory effect on the antiseptic power of certain germicides (for example, corrosive sublimate) dissolved in it, and the greater the alcoholic strength the greater this inhibitory power.

Peritonitis Tuberculosa.

Dr. Rud. Oehler, of Frankfurt a. M. (*Münch. Med. Woch.*, No. 52, 1900) gives his observations during the past five years on thirty-nine cases of tubercular peritonitis which he has been able to keep watch of. He says hospital reports show a percentage of fifty to seventy-five "cured," after operation. The trouble is that these cases leave the hospital and are lost. Among his thirty-nine cases, eighteen died, mostly from meningitis; twenty-one are living and healthy, or about fifty-one per cent. However, he admits the possibility of having made a false diagnosis in some. From his observations he draws the following conclusions:

1. Tubercular peritonitis belongs to the diseases of childhood.

2. Half of the cases die, mostly from meningitis, otherwise from emaciation and exhaustion.

3. Even without an operation, in a considerable number, especially children, where there can be no doubt of the diagnosis, there occurs a spontaneous recovery.

Bacterium Pneumoniæ Caviarum.

In the *Centralblatt f. Bact.*, etc., Bd. xxviii, No. 19, Strada and Traina, of Pavia, report an epidemic among one hundred of their guinea-pigs. Post-mortem examinations showed marked changes in the lungs. The kidneys were hyperemic. From the heart's blood and the lungs, they were able to isolate short bacilli, which grew on all media, were not stained by Gram's method, did not coagulate milk, or form gas or indol. The disease exhibited the form of a catarrhal pneumonia, hence the name bacterium pneumoniæ caviarum.

Diphtheria in a Pony.

Dr. Cobbett, of Cambridge, England (*Centralblatt f. Bact.*, etc., Bd. xxviii, No. 19), reports that a little girl came down with diphtheria, and upon seeking for the source of infection it was found that her pony had a bloody nasal secretion in which were demonstrated virulent diphtheria bacilli. The author calls attention to the fact that this condition is often met with in horses without being understood, and no doubt is the source of infection in many cases of diphtheria in man.

Examinations of the Blood for Pneumococci.

A. Prochaska (*Centralblatt f. Innere Med.*, No. 46, 1900) thinks the reason more do not find the pneumococci in the blood is because not enough blood is used. He takes four to five cubic centimeters from a vein with a sterile syringe and places it in bouillon. In all ten cases were examined, and in each was obtained a pure culture of pneumococci.

THERAPEUTICS.

Treatment of Pulmonary Tuberculosis in Early Childhood.

The first thing to do in the case of a child who is threatened with tuberculosis or who has developed definite signs of the disease is, says A. Latham (*Lancet*, Dec. 22, 1900), to take care that there is no further possibility of infection either through the air or through the food supply. It may, indeed, be said at once that our treatment of tuberculosis in young children must follow the general lines of our treatment of this disease in the adult. The treatment of miliary tuberculosis, general tuberculous bronchopneumonia, and advanced forms of tubercle is mainly symptomatic. In the case of a child who seems to be threatened with tuberculosis, or who has definite symptoms of bronchial infiltration or of the commencement of tuberculous changes in the lung comparable to what we see in the adult, we must be guided by the following principles. The most important is attention to detail; nothing is so small but that it should receive attention. The patient must have fresh air with plenty of sunlight, and a sufficiency of good, nourishing, digestible food; precautions must be taken against catching cold and against becoming tired. This last is very important and is often overlooked, but it will be found not infrequently that the advance made by a child, after the expenditure of much anxious care, is altogether neutralized because he is allowed to

overexert himself. On the other hand, the child must be made as hardy as possible.

With regard to climate, the chief necessities are an equable temperature and a dry soil. Large variations of temperature and a moist atmosphere are harmful; high altitudes are better avoided; cold, if dry, is preferable in many cases to warmth. Details as to a proper form of clothing must not be forgotten; careful attention must be paid to any apparently trivial illness which may arise, and the condition of the tonsils and the throat must be carefully scrutinized. In many cases small amounts of stimulants do good, and massage often leads to considerable benefit. Of drugs, the most beneficial in children is cod-liver oil; this is really a food, and may sometimes be replaced by cream. Too much must not be given; indeed, in dealing with tuberculosis of young children our best plan is to begin with small doses in the case of nearly all drugs, and then gradually to increase the daily amount. Give half a drachm of cod-liver oil twice a day to a child of two years of age, and gradually increase the amount. From time to time inspect the stools to see that this fat is absorbed; if it is not, diminish the dose or give in addition some pancreatic preparation. If a child will not take the oil in this way give it in the form of an inunction. Of other so-called specifics, preparations of creosote, commencing with half-minim doses, guaiacol, cal cium chloride, and the hypophosphites in gradually increasing doses are often of undoubted benefit. The syrup of iodide of iron or vinum ferri are useful preparations in anemic cases, and in uncomplicated cases of enlargement of the bronchial glands. Symptoms must be treated as they arise. In advanced cases our efforts must be directed toward the relief of distress and finally toward the promotion of euthanasia.

Organotherapeutics, Especially in Relation to Mental Diseases.

C. C. Easterbrook's (*Scottish Medical and Surgical Journal*, December, 1900) investigations in the insane have led him to conclude that those animal extracts which consist mainly of simple proteids (albumin and globulin) and albuminoids merely have a dietetic value; but that those animal extracts which are rich in nucleins and nucleo-proteids produce, when given by the stomach in sufficiently large doses (as sixty grains daily of the dried extract and upwards), a temporary stimulation of cell-catabolism with a subsequent anabolic reaction, this being evidenced by the common increase of the water, total solids, urea, and phosphoric (and uric?) acid of the urine, by the gen-

eral tendency to a subfebrile pyrexia, and perhaps most important of all by the initial loss in weight followed by a gain. This initial catabolic stimulation with its resultant anabolic reaction is, in the writer's opinion, the explanation of the physical improvement or "tonic effect" which occurs in a fair proportion of cases (usually under fifty per cent), and which if pronounced may be accompanied by mental improvement and even by mental recovery. In this sense, therefore, these substances may be termed metabolic tonics, and it is probable that in the living body those organs (cellular) which are naturally rich in nucleins and nucleo-proteids produce, in virtue of the metabolism of these substances, similar distant "tonic" effects upon the general cell-metabolism.

In the administration of animal extracts in disease generally it is of the utmost importance to recognize the fact that many of them (apparently those rich in nucleins and nucleo-proteids) may produce this tonic effect. It explains many of the discrepancies in the results obtained by various workers in the various fields of disease, and it should save one from the fallacy of attributing to various extracts specific effects in diseases in which *a priori*, on the "internal secretion" hypothesis, their use seems to be specially indicated, these effects being in reality the general tonic effect of a certain group of animal extracts. Apart from the general tonic effect upon cell metabolism, it is extremely doubtful whether each organ possesses a specific internal secretion in the sense intended by Brown-Sequard. Some organs probably have such an "internal secretion"—for example, the active principle (sphygmogenin) of the suprarenals, which powerfully increases muscular contraction and apparently diminishes tissue oxidation. So also the thyroid has an active principle (iodothyrin), whose specific effect is to stimulate catabolism or tissue oxidation, for in this respect thyroid extract stands far above all others, and when it is administered in large doses the anabolic reaction never sets in until after the cessation of the drug; whereas in the case of all the other "metabolic" extracts which the writer has used, an anabolic rebound generally sets in during the continuance of the drug.

Calomel Injections in Syphilis.

Fournier (*Rev. de Thérap.; British Medical Journal*, Dec. 29, 1900) gives his experience of the value of calomel injections in the treatment of syphilis. The method must not be regarded as a routine treatment, but as an exceptional one to be used in certain severe conditions, such as spinal and cerebral syphilis, iritis, phagadena, chronic palmar and plantar syphilides, ulcerating tuberculous syphilides, glos-

sitis, and tertiary laryngeal and pulmonary syphilis. It should be regarded as a temporary measure to be used for one or two months till the severe condition is improved, when it should be replaced by more ordinary treatment. In the author's opinion, it is the most powerful agent we possess against syphilis. The technique is as follows: The calomel should be sublimed and not precipitated, as the latter is apt to form lumps. It is afterward washed with boiling alcohol and then dried. The best vehicle is sterilized olive oil. A Pravaz syringe holding a gramme, which contains five centigrammes of calomel, is used. The needle is introduced deeply into the gluteal muscles, and a slight interval allowed to elapse before the injection is made, to see if any blood appears. If this occurs the injection should not be made, since there is danger of pulmonary embolism. Fournier quotes a case in which this occurred. The average dose is five centigrammes, injected every seven or ten days. This may be increased to seven, eight, or ten if necessary. In women, three or four centigrammes is enough. Four or six injections are usually sufficient. The author remarks on the rapid action and beneficial results in many cases, and quotes several severe cases in his clinic which were cured by a few injections, sometimes only one. On the other hand, he points out that such good results do not always follow, and sometimes the method fails. The objections raised against the method are the occurrence of stomatitis, gastroenteritis, toxic effects, local reaction, and pain. Fournier, with doses of five centigrammes, has seldom observed any bad mercurial symptoms; swelling and induration of the buttocks are frequent, but abscess is rare. Pain is the chief complication, and occurs in three out of five injections. It is sometimes very severe, but in the author's opinion the method should not be abandoned on that account in the severe and intractable cases in which he recommends it.

Hyperidrosis of the Axilla: Its Treatment with the Thermocautery.

Dr. Louis Kolipinski (*New York Medical Journal*, Dec. 29, 1900) recommends the use of the thermocautery for this affection, and says that a local or general anesthetic is unnecessary unless the patient is irrationally timid. The axillary base is washed and shaved. The thermocautery at a bright red heat is applied, with its flat side, from ten to twenty times to the space from which the sweat is seen to ooze, namely, the area covered by hair in the adult; the triangular groove below, when the arm is elevated, for about two inches; the posterior border of the armpit, especially at its middle, and the upper external border near the hairy center. One-half or more of the superficies is

turned into burns of the second and third degrees. The cauterizing is done in a very few minutes, and the pain is not severe. After cauterization a dry bismuth or zinc oxide dressing is applied, and the patient may resume his ordinary occupation in a few days.

Dr. Kolipinski records a severe case in a man thirty-three years of age, who was completely cured by the use of the thermocautery.

Suprarenal Extract in Addison's Disease.

Dr. Paul Edel (*Münch. Med. Woch.*, No. 52, 1900) reports his observations in a case of Addison's disease of six months' standing, before the suprarenal extract was commenced. After two or three days' treatment there was a very marked improvement of both the subjective and objective symptoms. In fourteen days he again took up his trade of locksmith. Along with his increasing strength, his pigmentation began to fade, so that after five weeks it was about all gone. His mode of life was the same before and after beginning the extract.

Unfortunately, after this remarkable improvement of all the symptoms under the extract, the patient, after only six weeks' treatment, showed symptoms of meningitis, and in seven days was dead. As soon as the meningitic symptoms appeared the suprarenal extract was withdrawn, and the former patches quickly took on a bronze color as intense as at the beginning. The post-mortem showed the cause of death to be, without doubt, a basilar meningitis.

RHINOLOGY AND LARYNGOLOGY.

UNDER THE DIRECTION OF WADSWORTH WARREN, M.D.

Economy in the Employment of Cocaine.

Dr. Wyat Wingrave (*Journal of Laryngology*, vol. xv, No. 12) makes some very pertinent remarks on this subject. His experiments in the Central London Throat and Ear Hospital, as reported below, indicate that much weaker solutions of cocaine than are usually employed may be made to do efficient service.

The prevailing high price, with the occasional personal intolerance of cocaine and its salts, suggested experiments with the view of reducing the quantity employed and increasing its efficiency when used in ear, nose, and throat work.

In the first place, it was found that a two-per-cent solution of the

alkaloid in equal parts of almond and petroleum oil proved an efficient local anesthetic for the examination of, and slight operations upon, the nose and throat—*e.g.*, passing Eustachian catheter, laryngoscopy, exploration and removal of foreign bodies, etc. Applied either by means of an atomizer or a cotton-wool "swab," although apparently taking a little longer to act, its anesthesia is more prolonged than that produced by a watery solution, probably owing to the fact that oil is less readily removed by the flow of secretion.

With regard to the salt, a watery solution containing cocaine hydrochlorate five-per-cent, and sodium sulphate two-per-cent, was eventually selected. The addition of the neutral sodium salt decidedly increases the effectiveness of the cocaine, partly by reason of its penetrating power and partly owing to its solvent action upon the globulins and other proteids which occur in the secretions. The former quality is well illustrated in the influence of Müller's fluid on tissues, the chromic salt penetrating readily under the influence of Glauber's salt.

The action of the combined solution proved to be distinctly more rapid, and the anesthesia was as complete, with a proportion of five-per-cent as with cocaine in much stronger solutions by itself. Economy is effected, and the risk of constitutional symptoms is minimized.

When either submucous or subcutaneous injection is required, eucaine hydrochlorate (five-per-cent) may be combined with two-per-cent sodium sulphate with equal advantage; but when used as a surface application to mucous membranes, eucaine should be followed or combined with a solution of suprarenal extract if local ischemia be desired.

The Significance of Faucial Tonsils in Young Children as to Point of Origin for Tubercular Infection.

Freidman, of Berlin (*Monats. f. Ohrenh.*, etc., vol. xxxiv, No. 10), made a histological examination of fifty-four tonsils extirpated from living children, and ninety-one from the cadavers of children below five years of age. In all of these cases there had been no reason previously to suspect that tuberculosis existed in the tonsils. Freidman arrived at the conclusion that the faucial tonsils in small children are of considerable significance in the matter of tubercular infection, and that infection of the tonsils primarily through infectious material in the food, as well as secondarily through infectious sputum, may with certainty occur. He thinks that most frequently infection arises through improper food, and that in this process the tonsillar lacunæ, on account of their absorptive function, play a considerable part.

A Case of Nasal Hydrorrhea.

Dr. Molinie, of Marseilles (*Archiv. Intern. de Laryng.*, vol. xiii, No. 3), has reported an interesting case of this affection. The patient, a woman fifty-seven years of age, suddenly and without apparent cause had a profuse watery discharge from the nose, especially upon the left side. Rhinoscopic examination, most carefully conducted, failed to give any clue to its origin. During twenty-four hours the quantity of fluid discharged amounted to 3300 cubic centimeters. A qualitative examination showed that the fluid was slightly acid in reaction, contained 8.10 grammes of chloride of sodium to the liter, traces of phosphates, and very much mucin. On this account it was determined that the fluid could not have been cerebrospinal in origin. Its cause remained obscure, and the treatment likewise was fruitless.

NEUROLOGY.

UNDER THE DIRECTION OF CHARLES W. HITCHCOCK, M.D., DETROIT, MICH.,
Attending Neurologist to Harper Hospital.

The Alcohol Question.

An article which is attracting no little attention is that upon the above subject by Prof. A. Forel, M.D., Ph.D., LL.D., in the October, 1900, issue of the *American Journal of Insanity*. Brought up in Switzerland and accustomed to wine-drinking from his earliest years, he easily accepted the traditional views that ill effects of alcoholic indulgence was solely due to either the error, vice, or indiscretion of the subject, that alcohol was essential to the health, and that to deprive those accustomed to its use of their wonted alcohol was only to induce sure collapse and early death. The large percentage of mental cases in which alcohol was undoubtedly a causal factor, and the large number of acute alcoholic cases, with which he had to deal in his large institution experience, afforded food for thought. He found his efforts to induce his alcoholic patients to abstain permanently of no avail, and it remained for his shoemaker, an abstainer, to point out that his personal inconsistence made his efforts fruitless. This led him in trepidation to try the experiment of total abstinence. The looked-for collapse did not come, he found his capacity for work much increased by his change in habit, and he now successfully treated his acute alcoholic patients by inducing total abstinence. Since then he has been on all sides deeply impressed with the social,

criminal, and hereditary evils from even so-called moderate indulgence in alcohol, and he writes with a certain freshness of enthusiasm concerning the evils of alcoholism which betokens, to say the least, that he has all the courage of his convictions upon the subject.

Researches into Uric Acid and Epilepsy.

The active research for toxic causes of epilepsy has received sundry notices in these columns. We have mentioned the theories that carbonate of ammonia, paraxanthin, and uric acid are offending factors. Some evidence has been offered that uric acid secretion is regularly diminished preceding epileptic seizures, but in the August, 1900, number of the *American Journal of the Medical Sciences*, J. J. Putnam and Franz Pfoff present a report of experimental researches tending to show that the secretion of uric acid is not so diminished. The work seems to have been carefully and scientifically done, but is insufficient to be conclusive.

OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,

Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

Shall the Antrum be Opened in All Acute Empyemas of the Mastoid Cells?

Snydacker (*Archives of Otology*, December, 1900) believes the antrum should be opened in all cases of acute empyema of the mastoid cells. The first opening into the antrum should merely be exploratory. If no pus wells up, and by inspection no pathological changes are found, the relations of the part should be disturbed as little as possible. The author deplores the action of some operators, where there was absolutely no indication for it, of curetting the antrum and enlarging the cavity, so that the pus is constantly reinfecting the wound. The conservative operator, bearing in mind that the antrum is always more or less involved in purulent middle-ear disease, must convince himself what the condition of the antrum is, and if he finds empyema, or granulations, or polypoid growths, then the cavity should be enlarged, making broad communication with the tympanum. If, on the other hand, he has convinced himself that the antrum is not the seat of danger, he should at once desist from further disturbing the parts.

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ORIGINAL CONTRIBUTIONS.

CONSERVATISM IN SURGERY.*

BY MAURICE H. RICHARDSON, M.D., BOSTON, MASS.

The title of my paper was selected because it permits a breadth of scope which will, I hope, invite criticism upon many questions connected with modern medicine and surgery—questions interesting as well to the surgeon and to the physician as to the general practitioner. I do not intend, however, to bring forward all the questions which this subject suggests, but only a few that have especially interested me. My remarks, therefore, are in the nature of a free lance, with which I feel at liberty at one point to attack, and at another to defend. I sincerely hope that these views upon various themes of the day, dependent as they are upon personal experience, and the experience of my colleagues, in a distant section of the country, will either commend themselves to this audience or excite full and free criticism.

I have had of recent years occasion to present in the discussion of surgical questions arguments based upon bad or upon fatal results. My strongest arguments have been my fatal cases. I cannot deny that it has been an unpleasant task to acknowledge defeat, but not only does regard for truth require that the dark side of surgery be brought forward, but a just verdict in the trial at issue demands it. Thoughtful consideration for others requires perhaps that our misfortunes in surgery should be honestly acknowledged. It is of course true that bad results do occur in the hands of all of us. It is not perhaps to be expected of human nature that one should publish a disaster as eagerly as a triumph, that he should be as quick to "report with regret" as to "report with satisfaction;" but what

*An address delivered (by invitation) before the Wisconsin State Medical Society, 1900.

should be said of that commander who by failure to report a dangerous and unsuccessful movement withholds from other commanders the warning by which they may avoid similar misfortune?

In the contest between surgery and disease do we not hear of too many victories and too few defeats? As surgeons, are we not as bound by honor as is the field commander by discipline to report our failures and shortcomings, however humiliating they may be? I believe that we are. Exception should be made when the reputation of others is at stake, or when laymen may put upon the surgeon's act a misconstruction that might cause him endless annoyance.

Another duty is the accurate presentation of results. This duty is most difficult of performance, because one is likely to be led by the enthusiasm of the moment into exaggeration. Have we not heard the conservative promoter of a new operation deplore the too invariable success of the procedure in the hands of enthusiastic followers? On the part of the surgeon, perhaps, the wish is often the father of the thought; his enthusiasm and hopefulness lead him to belittle the significance of unfavorable symptoms, and to magnify that of favorable ones. On the part of the patient an accurate report of his symptoms is often impossible; he, even less than the surgeon, is capable of giving trustworthy evidence of his own condition. With despair replaced by hope, exciting acute interest from all about him, carefully nursed and carefully fed, is it any wonder that he yields to the enthusiasm of the moment and believes himself a new man? We must always beware of this willing witness to our skill, especially if our hopes are high, for but too often the exaltation of the patient gives way subsequently to despair. When environment changes and interest slackens, the good signs disappear and the bad ones return; the naked truth appears, but only, perhaps, after the first favorable reports have been widely published. Such, I am convinced, is the subsequent history of many an enthusiastic patient, and such a course I myself have seen in some of my own cases. This is the explanation of those optimistic reports given out by physicians who honestly believe in the efficacy of their cancer cures—a conviction which may not be overcome by the failing strength, increasing tumor, or even the actual death of the patient.

The questions which have chiefly interested me have been those connected with the surgery of the brain, with malignant disease, and with the surgery of acute abdominal lesions, chiefly of the appendix and the gall-bladder. What does conservatism mean as applied to them? The word as commonly used in connection with surgery is synonymous with medical treatment, palliation; or in case two or more surgical methods are proposed, the least extensive and dangerous.

But the word may be used in quite a different way to express a line of surgical treatment commonly called radical; when, by operation under the most favorable circumstances, the patient is subjected to a slight risk that he may avoid the possibilities of much greater dangers in the future. Such a line of treatment is true conservatism —a conservation of life at the least possible risk.

As an illustration of this definition, I would mention the removal of an appendix in the period of perfect health; the radical cure of hernia; the removal of gall-stones before they have caused in the biliary passages changes which menace health and augment the dangers of their removal.

Ten years ago, when the surgery of the brain began to excite wide-spread interest, it seemed to some of us that, from the very nature of things, the future of this attractive field promised, to say the least, less than did, ten years before, that of the surgery of the abdomen. In making so unfavorable a prognosis of brain surgery, we were classed with those who had with gloomy prognostication obstructed the wonderful advance of abdominal surgery. I for one, however, felt that in the invasion of the crainal cavity we were undertaking measures which could not often succeed, and that when unsuccessful they could not but make matters worse than before; that under many circumstances the sum total of suffering and death was distinctly increased.

Discouraging as are the infections of the peritoneal cavity, they are vastly more encouraging than those of the interior of the cranium. The reason is obvious—in the one cleansing and drainage are, if not easy, at least practicable; in the other they are anatomically impossible. There is no convenient cloaca into which circumscribed collections can escape. The products of inflammation confined between a bony and a fibrous layer must spread laterally; a few hours is sufficient to cause great injury. Furthermore, localized abscess of the brain seldom occurs in the course of septic meningitis. It results rather from a formation of septic fluids, slow enough to permit an efficient walling sphere of exudation.

Clinical experience sustains the essential hopelessness of operation for septic meningitis. If, however, the causative lesion can be attacked before the infection has extended into the brain, the meningitis may oftentimes be prevented.

I can recall not a few instances in which an acute otitis media, a mastoid abscess, a compound fracture of the skull, or even a sinus of the orbit, has, by the postponement of radical measures, resulted in fatal meningitis. Few if any patients are saved after the infection has begun. Indeed, so invariably has death followed operations for

septic meningitis that it has seemed to me, on the whole, that harm rather than good is done in these cases of surgical intervention. Not that harm is done to the patient—for he is beyond it—but to the profession and to the art of surgery.

The surgical treatment of brain tumors seems with our present knowledge unlikely to become much more successful than it has been in the past few years. Could the exact nature and situation of the tumor be predicted, this field of surgery could not be disputed, for an accessible tumor that can be completely removed promises one of the brilliant triumphs of modern surgery.

Were it possible to limit our operations to such tumors, little could be said against radical surgical treatment; for it must be assumed that all brain tumors which show unmistakable signs of their existence cause great suffering and inevitable death. In the vast majority of cases, unfortunately, operation hastens death, if it does not increase suffering—the operation, beyond proving the correctness of the diagnosis, does no good whatever. In none of the cases of brain tumor operated upon in Boston up to this time has a permanent cure been accomplished. In only two, so far as I know, has the tumor been removed successfully. In one of these the tumor, which was situated in the left hemisphere, weighed a pound. The patient made a good recovery from the operation, but the tumor (a sarcoma) recurred, and the patient died at the end of six months. In the report of this case, published by Dr. Putnam and myself in the *Boston Medical and Surgical Journal* of February 9, 1899, this question of intervention is discussed as follows:

"The question is a proper one, whether the amount of relief obtained in this case was such as to encourage one to repeat the experiment in another similar case. It is certain that the patient's friends would say, 'Yes.' To see a near relative fall suddenly from health and good prospects into the toils of a relentless malady, and strike no blow in defense, is almost intolerable. If the suffering from constant headache and approaching blindness is added, the danger of death from the operation or its immediate effects becomes, in the eyes of some persons, an inconsiderable risk. Others cannot look at the matter in that way, and a conscientious surgeon must admit that between the danger of a rapidly fatal issue—which is considerable—and considerable improvement, even if only of a year or two's duration, there is a chance that the operation, while prolonging the downward course for some weeks or months, and removing some distressing symptoms, may add new complications and discomforts."

In the other case of brain tumor (glioma), removed two months ago, there have been as yet no signs of recurrence; but as an imme-

diate result of the operation the patient had a hemiplegia, which is slowly disappearing.

The results of my operations for brain tumor have been disappointing as to remote effects, though the immediate recovery from operations so extensive has seemed extraordinary. Had the tumors been benign — could their removal have insured a permanent immunity — no operative measures could possess greater possibilities of good. Nevertheless, even with the present uncertainties as to accessibility and curability, is it not fair to say that one complete restoration to health would have more than offset the disadvantage of a dozen failures or the occasional fatalities in which the inevitable result was hastened by only a few months? From this point of view the radical treatment of brain tumors must be defended.

Again, the future possibilities in the surgery of brain tumors must rest upon repeated attempts at their removal, for it is only by numerous observations that we can gain a fair estimate of the dangers and the benefits of operation. Moreover, it is only by repeated operations that one can eliminate the dangers from inexperience and faulty technique. From this point of view, too, radical treatment of brain tumors must be advocated. Let us hope that the future has in store a more satisfactory outlook.

The most brilliant field of intracranial surgery is certainly that of meningeal hemorrhage, for when, after a blow, blood is escaping fast enough to cause symptoms of pressure, the only reasonable hope of cure lies in trephining and in ligating the bleeding vessel. Fortunately the diagnosis and the localization are easy. Intervention has in our cases given the most brilliant results. No question of conservatism may be raised here.

In hemorrhage of uncertain origin and localization involving vessels of the brain itself, the advisability of surgical intervention may well be deemed doubtful. Indeed, it seems clear that we should not, in the doubtful hope of finding and tying the bleeding vessel, make an exploration which cannot but increase the already existing laceration and bruising.

In the treatment of epilepsy we meet, perhaps, the question of the greatest doubt. We have a most distressing and disabling malady; in its treatment we have every possible suggestion that medical, electrical, and surgical therapeutics can offer.

What is the wise and conservative course?

No disease presents greater need for relief, for not even the relief of death itself is at hand. Failure means the condemnation of the patient to a life of enforced inactivity and of ruined ambition — of hopeless misery.

Surgical methods have seemed reasonable when any definite removable cause could be determined—a depressed fragment of bone, a scar in the scalp, an aura definitely localizing the motor area controlling it, even an obscure history of violence to a certain cerebral tract.

But, unfortunately, the epileptic habit, once acquired, following no matter how definite and remediable an irritation, does not seem to be permanently benefited, even when the cause of irritation has been removed. Removal of a splinter of bone that has long been embedded in a motor area seldom results in cure of epilepsy. I have removed, without more than temporary relief, depressed fragments of bone in cases in which the epileptic habit had been of long standing. So with operations for less conspicuous examples of irritation—trephining under scalp wounds, removal of definite and limited motor areas—all of which have proved inefficacious in my hands.

Operations indirectly affecting the brain and the nervous system generally, such as excision of the upper cervical ganglion of the sympathetic, first on the affected side and then on the other, and operations affecting the blood-supply, such as ligation of the vertebrals, must be admitted to be thus far failures. True, the interest shown in the patient, the increased attention, the careful watching, feeding, and nursing, all act as suggestions, and for the time effect an improvement; but with complete convalescence from the operation and consequent waning of interest, the fits come back as bad as ever. Wood's remark at Washington ten years ago, in the general discussion of the treatment of epilepsy, that the suggestive effect of amputating a toe would do as much good as attacking the motor area, has, as far as my observation goes, been prophetic.

But, after all, is it unjustifiable to continue these attempts? Have we mastered the subject sufficiently to say that there is no future for the surgical treatment of epilepsy? And, if there is any future, how is that to be determined except by constantly renewing the attempt, discouraging though it be? The answer seems to me plain: Patients who, driven by the failure of medical therapeutics, are willing and eager to submit to any surgical measures, no matter how discouraging, should be given that chance of relief, even if it be a desperate one.

As a prophylactic measure, all simple fractures of the vertex with depression should be trephined, and all compound fractures, depressed or not, should be explored for the removal of possible fragments of bone.

The surgical treatment of trifacial neuralgia offers an admirable illustration of the comparative merits of conservatism and radicalism

in surgery, for the disease of itself is one of suffering only. In the results of its treatment the patient's testimony is of great value. When he says, for instance, that he would be glad to submit to a severe operation each day for the relief of that one day, he gives us a clear idea, not only of the terrible suffering of trifacial neuralgia, but of the instantaneous relief which neurectomy affords.

In the treatment of trifacial neuralgia the bearing of conservatism is obvious, to me at least. Peripheral neurotomy, neurectomy, avulsion of the second and third divisions at their foramina of exit in the sphenomaxillary fossa, give as a rule only temporary relief. Though they are operations of safety, all therapeutic measures should first be exhausted. When therapeutics and operations external to the skull have failed, then the more difficult and dangerous operation upon the Gasserian ganglion is clearly indicated. It cannot be said in the defense of radicalism that early destruction of the nerve originally offending would have been successful, for experience has shown conclusively that early peripheral neurectomy is followed in about two years by a recurrence either in that nerve or in a collateral branch. Now and then we hear of extraordinary benefit from some simple therapeutic agent; but, if authentic, the method does not stand the test of time. Some years ago, for example, a physician showed one of my former patients in whom recurrence of violent neuralgia had yielded to an application of something or other to the middle turbinated bone. His success implied, and as a matter of fact he said, that the primary operation upon the supraorbital, infraorbital, and inferior dental, and the secondary operation upon the second and third in the sphenomaxillary fossa, had been unnecessary, not to say unjustifiable. It was not long, however, before the patient applied to me for still another operation.

In the removal of the Gasserian ganglion we have a most promising operation, but a formidable and dangerous one. We should resort to it only when forced to do so by unbearable suffering, which has failed to yield to therapeutics, to mild operations, to severe operations. This course seems to me imperative radicalism following in the steps of wise conservatism.

These remarks apply also to the peripheral neurectomies, and the myotomies for muscular spasms, particularly spasmodic wryneck. To resect the spinal accessory nerve, and to divide the sternomastoid, seems to me too radical in the early stages to be wise; to prolong conservative therapeutics far beyond any reasonable hope seems certainly foolish.

In the surgical treatment of malignant disease there seems to be a great difference of opinion, even among surgeons, some asserting that

no cases, and others that a large percentage of cases, are curable. To the former, operative treatment means palliation, and conservatism admitted hopelessness. To the latter, conservatism means neglect—the withholding of possible cure—ignoble quitting of the field without a blow.

The error of both will be found, probably, in the extreme views, the truth lying between. In cancer of the breast, for example, permanent cure, as shown in numerous cases by an immunity, now of many years' duration, is undoubtedly possible by operation; that seventy-five per cent can be cured is, however, certainly open to doubt. The more extensive the operation, the more likely the cure. But in certain cases — no matter how early or how extensive the operation—cure is impossible. In other cases a late operation, and a limited one, is sufficient for permanent cure.

Conservatism in malignant disease applies to those cases in which there is not only not a reasonable but absolutely no hope of cure. It demands strenuous opposition when that delusive argument, "there is no chance without operation, therefore operate," is used to justify operation upon the hopelessly infected — when, in fact, there is no chance, operation or no operation.

Conservatism as synonymous with palliation—with medical treatment—is in my opinion demanded when the disease is so situated that removal with a broad margin is impossible. When such a margin can be had, I am convinced that the most radical operations are fully indicated; that the wider the margin, the greater the probability of cure; that the milder the form of malignancy, the better the prognosis; that all the viscera should in favorable cases be attacked, unless their removal is incompatible with life.

As in the surgery of epilepsy and brain tumors, so in surgery of malignant diseases, we owe a certain duty to science—we must not quit the field until we know that we are beaten.

The more vital the organ, the softer and more vascular, the more hopeless as a rule is the outlook for operative treatment of cancer. The lung, the liver, the brain, are fields where quickly growing malignant disease almost always forbids operation, no matter how favorable the nature and situation of the tumor and how feasible the dissection. The organs largely fibrous, or of firm parenchyma and fibrous capsule, by which the tumor may be confined within its own borders, offer a much more hopeful outlook, particularly if the whole organ can be sacrificed. To this class belong the uterus and kidney. Finally, there is the alimentary canal, with its slowly growing carcinomata, which may be completely removed, in favorable cases, without impairment of processes of nutrition.

In malignant disease of the extremities, particularly the sarcomata, palliation has no reasonable place, for of all situations of malignant disease that in the extremities offers the best results, provided the operation is early enough to remove all the disease. Here true conservatism demands the earliest possible extirpation of the tumor if complete extirpation is possible; but it demands quite as strongly that we withhold the knife when total extirpation is clearly impossible.

It has seemed to me that operations upon cancer of the brain, of the lungs, of the liver, offer so little hope, both as to immediate and as to permanent cure, that they are practically unjustifiable. So, too, operations upon cancer of the breast when there is infiltration of the subclavian triangle or of the bony chest wall; upon the kidney when there is a marked cachexia; upon the uterus when there is pericervical extension; upon the stomach, intestine, rectum, esophagus, or tonsil, when the disease has invaded outside tissues; upon malignant disease of the humerus or forearm when there are infiltrating masses above the clavicle; upon the femur or leg when there is metastasis above Poupart's ligament, or even when the inguinal glands are involved. We know, not that there is but little hope of cure in these cases, but that there is no hope; that the operations are dangerous; that in many cases an open and distressing wound results; that often the patient is worse than before operation, or than he would have been under the palliation of medical treatment. We injure, without the possibility of benefiting anybody, our profession and ourselves.

Leaving such fields of desperate surgery as the chest wall, the lung, and the liver, let us consider the more hopeful regions of the stomach, the kidney, and the uterus. At the time the surgeon is appealed to for relief, however, not one case in fifty of cancer of the stomach permits a hope of cure reasonable enough to justify a pylorectomy or a total gastrectomy; not one in twenty-five cases of cancer of the cervix justifies a hysterectomy; few of the kidney a nephrectomy; and but few of the intestine a complete resection. But though the favorable cases are few in number, when those few apply for relief, not even total extirpation of the stomach, or removal of the kidney, of the uterus, of the intestinal coil, should be shirked. In such cases operation is as clearly indicated, in my opinion, as amputation of a cancerous breast, or extirpation of a cancerous lip. Cancer is cancer, and bad enough, wherever it may be found; but I believe it is no worse intrinsically in the sigmoid flexure than in the lip, no worse in the uterus than in the breast. The question of curability by operation is merely a question of environment, of dissection.

I have seen in a recently reported discussion, on the one hand, that

all cases of uterine cancer are hopeless, and on the other, that operation is justifiable even when the ureters are clearly involved. From both extreme views the conservative surgeon cannot but dissent. To withhold operation from a cancerous uterus in which no infiltration of surrounding parts can be made out is just as unreasonable, it seems to me, as to offer operation when the broad ligaments are infiltrated with disease.

(*To be continued.*)

MY LAST SIX COLOSTOMIES, WITH SOME UNIQUE FEATURES.*

BY JOSEPH M. MATHEWS, M.D., LL.D.,

Professor of Surgery in the Hospital College of Medicine, etc., etc., Louisville, Ky.

Within one year I have performed six colostomies. I do not want to appear before this society as an advocate of colostomy, however, because I am on record as being opposed to the operation in the vast majority of cases in which most surgeons urge that it be done. I am a believer in the statement that when cancer of the rectum has existed for any length of time, or a cancer of the sigmoid flexure or the descending colon, that there are such complications, by infiltration and otherwise, that it is folly for us to attempt a resection of the gut because we cannot possibly remove all the tissue that is involved. I think it is also folly to do a colostomy upon a patient when the extreme pain will not thereby be relieved, when life will not be prolonged, when there is nothing substantial to base the operative procedure upon; and in this statement I am glad to say that a number of the most distinguished surgeons in the United States quite agree. That there are cases that call for this operation I have never denied. If I had thought otherwise I would not have performed six such operations within the past year. Three of them were what might be called commonplace—that is, they were done for cancers which could not be excised. I do not mean to say that by the exercise of surgical skill the rectum itself could not have been excised in these three cases, but I do say that the infiltrated tissue including important organs could not have been removed, therefore resection was not considered. These three operations were done for pain principally, in that the disease involved the sphincter muscle, in patients who were past the meridian of life, who had lost flesh, and had become complete invalids, and when resection seemed out of the question.

The other three cases presented what I would call unique features. The first one of these, making the fourth of the series, was in the

* Reported to the Louisville Clinical Society.

person of a woman thirty years of age, in apparent good health; she had not lost much flesh, and upon examination of the involved structure, the rectum proper, and from the clinical history of the case, I was satisfied I had to deal with a syphilitic and not a cancerous rectum. There was nearly total obstruction beginning about two inches from the anus and extending into the sigmoid flexure. The woman complained of no particular pain; she seemed to think that she suffered greatly from constipation, or obstipation, as it really was; but examination of the rectum revealed the fact that it was nearly totally occluded, and, of course, as we understand such neoplasms, I knew that it would finally close, and I suggested a colostomy, which was acceptable to the patient. I did the operation of inguinal colostomy, and she made a good recovery. The unique feature about this case is that as soon as she had recovered she went into a house of prostitution, and has been there ever since—a prostitute; she plies her vocation, and tells me that those men who cohabit with her know nothing of the fact that she has this opening in her side, or that a colostomy has been performed.

The fifth case was a man about forty years of age, sent to me from Illinois. He was of very small stature; I do not suppose he weighed over ninety pounds, and when he presented himself at my office I was surprised at his enormous belly; it looked out of all proportion to the size of his body. He said he had some rectal trouble, but did not know exactly what it was, nor had his physician investigated it. Upon examination I found this man suffering from a cancer of the rectum, with almost total occlusion, considerable hemorrhage, and a great deal of pain. The unique feature about this case was that the man assured me he had not had an action from his bowels for eight weeks; that nothing had passed from the bowel in this time except what would ooze from the growth, a mucopurulent discharge. I felt satisfied from the condition of his belly that this was true. Upon this man I did a left inguinal colostomy, and through the opening thus made an enormous amount of fecal matter, more than I have ever seen pass from a patient who had been subjected to this operation, was discharged; great masses, first hardened feces, then softened fecal matter, and gas, escaped. The belly rapidly diminished in size, and in a few days was practically normal in appearance.

The sixth case was a lady referred to me by some physicians in Texas. She came not as an invalid especially, but simply to consult me. She was a well preserved woman, did not seem to have lost much flesh, and was not suffering any particular pain, which was a great surprise to me, for when I introduced my finger into the rectum I found that it would not pass the first stricture which I met. I then

took a catheter, which was the only thing I could introduce into the rectum, and by careful investigation I found that her whole rectum was blocked, even to the sigmoid flexure. That she had a passage of watery feces occasionally was true, but she could not have a fecal evacuation; yet she showed no evidence of autoinfection, she appeared to be well, and she did not consider herself an invalid. When I said to her that I saw nothing to do except a colostomy, and explained what this meant, she said of course that she would have to write home to her husband, etc., and get consent. The reply came to do whatever I suggested. I was puzzled to know what this condition was; I felt satisfied that it was not malignant. The patient was the wife of a reputable citizen, whose father was a minister, and upon inquiry I could get no information to bear out the assertion that it was syphilitic; at least, in this talk before the operation she gave me nothing to corroborate that view; still, I believed it was, and so remarked to my assistants when I did the operation. I did a colostomy in the left inguinal region. Two or three days afterward—and this is the unique feature about the case—I said to this woman, "I wish you would describe to me every illness you have ever had." She said that she had been a healthy woman all her life except what occurred to her after she was vaccinated. Eight or ten years ago she was vaccinated from a scab, and a certain time thereafter she had an eruption all over her body; after that she had a very decided inflammatory and ulcerative condition of her throat, and when I looked into her throat I could see that the tonsils were gone. She said then that she had had a deep ulceration of the throat which destroyed her tonsils. She also stated that she had on one leg a large ulcer which the doctors had failed to cure for months, and that she was an invalid therefrom. I am satisfied that this woman was the subject of syphilis, that this was a syphilitic rectum, and that the disease was contracted through the vaccination. I do not believe her husband had ever suspected that she had syphilis, nor had her physicians, because I wrote them and inquired.

You will permit me to speak a moment as to what becomes of these patients. We are forced once in a while to do this disgusting operation—I say disgusting because I believe the term expresses the true condition. I have been criticized by some writers for calling it disgusting, but we all know that with an artificial anus in the side through which fecal matter discharges once or twice a day, especially if the patient be a woman, no word we can use will so well describe the condition as *disgusting*. That we are forced to do the operation as a *dernier ressort* is true, but I believe surgeons make a mistake in performing the operation simply because a man or woman has a cancer

of the rectum or sigmoid flexure. The vast majority of these cases are better off without a colostomy. The ideal condition for a colostomy is where you have total obstruction from a syphilitic deposit in the rectum, and under these circumstances by performing the operation you prolong the person's life, and he will probably live out his allotted days. In cancer it is just the opposite.

There have been improvements made recently in this operation. Cripps has deemed it sufficient to bring up the colon, attach it to the abdominal wall, then open the gut. Allingham and others, believing that it is necessary to have a spur in such cases, put a glass tube or strip of gauze underneath the gut. It was my suggestion several years ago, as perhaps some of you will remember, that in lieu of using one glass tube or pin we should use two, in order to elevate the gut more completely. Widal has suggested lately—and his suggestion is embodied in the last edition of the American Text-book of Surgery, and I have adopted it in one instance—that after the colon is reached and pulled out of the cavity, we take a glass tube with a flange at both ends wrapped with iodoform gauze, place it underneath the colon and raise it out of the cavity above the abdomen, and then stitch the colon together beneath it with catgut to the extent of half an inch to one inch, thus elevating the colon above the abdomen. In many cases where colostomy is performed in the ordinary way feces will trickle down through the lower opening, and we find the patient annoyed by fecal matter getting into the rectum after the colostomy has been done. Several of my patients have complained of this, but in the case where the suggestion of Widal was followed, a good spur being thus obtained, this could not occur.

PNEUMONIA IN CHILDREN.*

BY B. A. ALLAN, M.D., LOUISVILLE, KY.

I did not fully realize until I began to think over the subject of pneumonia in children what a task I had undertaken. The subject is so important and interesting to the general practitioner that it should be treated of at length and in a systematic manner; but I am positive that to attempt to bring the subject before you in the manner mentioned in text-books would not only consume too much of your time, but require a more experienced writer than your humble servant.

Pneumonia of the very young is, according to all recent writers, called bronchopneumonia, the term indicating the structures involved.

* Read before the West End Medical Society, Louisville, Ky.

The disease is frequently a primary trouble, but usually a sequel to either measles, whooping-cough, or diphtheria. On account of its frequent association with these other diseases it is very often overlooked, and even when existing primarily it may be overshadowed by prominent cerebral symptoms. The disease is of such frequency, especially during certain seasons of the year, and having for its choice the debilitated children, that it should be a routine practice to examine the chest of every patient, even though the symptoms of pneumonia may not be present.

The causes of the disease, according to writers of recent date, of course vary, although it is almost the universal opinion that the microbe is the mischief maker.

The symptoms are sometimes, and in fact nearly always, irregular. The attack is frequently preceded for two or three days with a slight bronchitis, slight elevation of temperature, rapid pulse, and hurried respiration. Auscultation at this time will not as a rule show any of the sounds peculiar to pneumonia, but later on we find the little patient with a high fever, painful respiration, very rapid pulse, and crepitant or subcrepitant râles at the base of one or both lungs.

The symptoms as stated above vary, giving us hope of quick recovery when we find the temperature lower, but at the next visit we find the pulse and temperature again higher, with great restlessness and thirst, moaning respiration, etc., and it is then that we conclude that we have to deal with a case of bronchopneumonia. We do not find the above symptoms in lobular or croupous pneumonia, but would expect a return to the normal temperature and pulse-rate to indicate the crisis, which we may not look for in bronchopneumonia, but that the disease, if recovery takes place, ends by lysis.

The temperature curve in these cases has according to my observation been varied. I do not regard a high temperature, say 104° or 105° F., as serious; in fact, my experience is in accordance with several writers, that the fatal cases of bronchopneumonia are those that never have a temperature of over 101° F. It never alarms me to have an elevated temperature in pneumonia unless it is too persistent.

The recent epidemic of measles and of whooping-cough in this city has afforded some of us opportunity to observe the diseases followed by or complicated with bronchopneumonia. That in this climate we have in all of these diseases peculiar to children a malarial complication cannot be questioned, if we regard quinine as a test and have noticed a pronounced periodicity in regard to the temperature.

The diagnosis is not always as easy as one would imagine. No doubt many of you have deferred giving an opinion to the family, while suspecting pneumonia and making vigorous search for it at each

visit for two or three days without detecting a single physical sign either by percussion or auscultation, until you have been finally rewarded for your trouble by hearing fine crepitant râles, perhaps over both lungs. There is nothing in my opinion which at certain times is more perplexing to the physician than making a diagnosis of pneumonia, especially in children. There is nothing, excepting possibly typhoid fever, which presents such a varied number of symptoms. But when we find it we generally know it, and it is quite a satisfaction to be able to find pneumonia, especially when we cannot make a diagnosis of anything else. An acute onset with persistent high temperature should always lead us to suspect pneumonia, and when in addition we have prostration and perhaps cyanosis the diagnosis is almost certain. Cases of the acute congestive type are the ones most frequently overlooked, and in many instances a positive diagnosis cannot be made; only the physical signs can positively settle the diagnosis. It has been my experience that many cases of infantile pneumonia can exist without consolidation.

The prognosis in bronchopneumonia is usually unfavorable, and it is always best to give a very guarded opinion as to the result. Much depends upon the previous vigor of the patient, and his environment; the tubercular, the rickety, or strumous diathesis, of course, is a factor in causing greater mortality.

As to treatment, every case of pneumonia, so far as its management is concerned, is a law unto itself. Prophylactic treatment is to treat cases of bronchitis with the view of its being a forerunner of pneumonia. It is said by Holt that bronchopneumonia is a very rare disease among the upper class of people.

A patient suffering from pneumonia should first be placed, if possible, in an airy, well ventilated, and well lighted room. If a stove is used for heat, it is important to keep a kettle of water constantly steaming, as a dry atmosphere with poor ventilation is said to deprive the patient of much needed oxygen. The clothing should be a flannel gown; the patient should be kept in bed rather than on the lap of the nurse; a cotton-batting flannel and oiled silk jacket should envelop the entire chest after having previously used inunction of camphorated oil and turpentine; the hips of the patient should be slightly elevated, favoring the blood-supply to the lungs and heart, and thereby favoring the expectoration, etc.; cold water in abundance and *ad libitum* is essential. Cold water is not only grateful to the patient, but it is my opinion that it is what might be termed nature's expectorant as well as beverage. I usually insist upon my patients taking large quantities of water, either in the form of orangeade, lemonade, or pineappleade, with white of egg raw; stimulants in the form of whiskey, brandy, or

sherry wine, especially if the pneumonia is secondary, are quite necessary.

As to therapeutics, I am inclined to treat my patients symptomatically, or on the expectant plan. Just because a case is diagnosticated as pneumonia, and in the congestive stage, it is my opinion that the routine of giving carbonate of ammonium, digitalis, etc., should not be resorted to. It is best, in my judgment, to give nothing save minute doses of calomel in the beginning, followed by small doses of aconite, combined with acetate of potassium and spirits of nitre, when other remedies such as muriate of ammonium or possibly carbonate of ammonium in the form of spirit of mindererus might be indicated. But I candidly believe many cases would recover without medicine, with good nursing and proper hygienic surroundings, a mustard footbath, cold drinks, a dose of bromide to relieve nervousness, a sponge bath of alcohol or vinegar and water under cover if temperature is persistently high.

The traditional poultice in my judgment has yet an occasional place in the treatment of pneumonia in children. On several occasions have I seen cases with continuous high temperature, nervousness, sleeplessness, crying, and moaning, and with pleasure witnessed a magical improvement within an hour after the application of a flaxseed poultice with which was incorporated a teaspoonful of mustard, and this covered with oiled silk.

The progressive trend of modern therapeutics should lead us to at least hope that serum therapy will find a wide field of usefulness in the treatment of pneumonia in children, and I trust that these little sufferers may in the near future be spared by the use of an antitoxin as efficacious as diphtheria antitoxin.

THE rich family of Mitsui, of Tokyo, has offered an extensive site in that city for the erection of a university for women, and three other citizens have between them contributed a sum of $120,000 for the cost of the necessary buildings. The work is already in progress, and it is hoped that the new university will be opened the coming spring. It is not likely that there will be any want of students, as in recent years very many young ladies of good family have applied to be admitted to the university courses, especially to the Faculty of Medicine and the Polytechnic School. The latter institution is intended for the training of civil engineers, a circumstance which seems to show that Japan is about to set an example to Europe in opening up a new sphere of labor for the women of the future.

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EDITORIAL ARTICLES.

THE PANCREAS AND DIABETES.

The relations of lesions of the pancreas to diabetes mellitus are of the greatest interest, and the profession will accord praise to the admirable effort of Dr. E. L. Opie to present these in a systematic form in his recent article in the *Journal of Experimental Medicine*. That the pancreas has an important function in the metabolism of carbohydrates has long been known, and its destruction in animals causes diabetes. The main facts in the relation of the pancreas to diabetes may be summarized as follows: Extirpation of the pancreas in animals is followed by symptoms which are characteristic of diabetes mellitus in man. A greater or less diabetes follows extirpation of a portion of the pancreas. That man is no exception to this rule is shown by a number of cases where, following operative removal of a portion of the pancreas, diabetes has ensued. Chronic interstitial inflammation and sometimes acute inflammation of the pancreas is accompanied by diabetes mellitus, and the frequent association of these conditions shows that they bear some relation to each other. There is on the other hand no evidence to show that pancreatitis is caused by the diabetic condition.

Diabetes is not always associated with a demonstrable lesion of the pancreas, but it is impossible to say in the present immature knowledge of carbohydrate metabolism whether the pancreas is not always involved in the lesion.

In the pancreas have somewhat recently been discovered certain structures whose nature is still somewhat obscure. These are groups of small irregular polygonal cells with a round nucleus and homogeneous refractive cell body. Numerous observers have described these structures and designated them "islands of Langerhans."

The upshot of the investigations undertaken by Dr. Opie is to the

effect that the diabetes which follows lesions of the pancreas is dependent upon the amount of implication of the islands of Langerhans. His conclusions are sufficient to justify the statement that a relationship has now been established between the lesions of diabetes mellitus and lesions of the islands of Langerhans.

We may justifiably expect that increasing attention to the intrinsic pathology of pancreatic lesions will serve to substantiate definite facts in relation to the etiology of diabetes mellitus.

EDITORIAL NOTES.

A Case of Youthful Malingering.

A case of youthful malingering has recently been recorded by Dr. Kyle, of Indianapolis. The individual was a girl of ten years, who had been afflicted two years ago with purulent ophthalmia of the left eye, which entailed the enucleation of that organ. About the middle of last summer the right eye became inflamed, and large lumps of a mucopurulent character were removed several times daily. On being carefully watched it was discovered that the lumps were made by the child from the lint which was given her to wipe her eyes with. On questioning, the girl confessed to having placed the balls of lint in her eyes to escape going to school. It is remarkable to find malingering in one so young, and also that no more serious condition arose than that which did.

The Dangers of Salads.

The lobster salad has been reprobated to the extent of becoming the opprobrium of dietetics. Salads undoubtedly often partake of the attributes of mysticism. Now comes Professor Caresole, who describes in *Il Policlinico* all the bacteria he has discovered among the green vegetables largely used by the poorer classes in Italy. Among them were B. typhosus, B. septicus, and B. tetanus. The dangers of unwashed vegetables are in fact very great. It is interesting and useful to know that soaking the lettuce or endive for half an hour in three-per-cent solution of tartaric acid not only renders these vegetables safe, but also improves their qualifications for the composition of salads.

ITEMS AND NOTES.

SMALLPOX in Paris is gradually disappearing.

THERE is no subsidence of the grippe epidemic in New York City.

THE new quarantine hospital at Indianapolis was opened January 7.

THE epidemic of smallpox in St. Petersburg has been successfully stamped out.

THE Eighth Pirogoff Congress will be opened in Moscow in December, 1901.

ON October 1, 1900, there were 22,800 inmates in the various New York State hospitals.

IT is stated that a Philadelphia firm is putting upon the market an antiseptic mouth-piece for telephones.

THREE Chinese doctors have been arrested in Kansas City for practicing medicine without a license.

THE site for the new Municipal Hospital, Washington, D. C., has been purchased for $65,000 by the commissioners.

DR. VICTOR C. VAUGHAN, of Ann Arbor, has been appointed a member of the Michigan State Board of Health.

A NATIONAL association of the medical press has recently been organized in Denmark, Norway, Sweden, and Russia.

THE first Russian Congress of Surgeons was held in Moscow on December 27. The president was Professor Diakonoff.

A NEW medical journal has been issued at Havana known as the *Revista de la Association Medico Farmac. de la Isla de Cuba.*

DR. EDWIN KLEBS, for the last four years professor at Rush, Chicago, has settled at Munich since his return to Germany.

IT is estimated that 1,000,000 people have been vaccinated in Greater New York since an epidemic of smallpox threatened.

TWO large lecture amphitheaters adjoining the main building have been built by the medical department of the University of Kentucky.

Dr. Thomas D. Isom, the oldest practicing physician in Mississippi, has resigned his position as surgeon of the Illinois Central Railroad.

The Cross of the French Legion of Honor has been presented to Dr. Velde, the German physician at Peking during the siege of the legations.

Smallpox is reported in more than one hundred counties in Missouri. It has also broken out in the Soldiers' Home in Leavenworth, Kansas.

Contributions of members of the New York Produce Exchange for the benefit of the hospitals during the December, 1900, collection amounted to $1966.

A prize of $50 for the best paper contributed by any member of the Buffalo Academy of Medicine has been offered by Dr. M. Hartwig, president of that society.

A monument is to be erected by subscription to the eminent French surgeon, L. Ollier, whose death in his seventy-sixth year occurred a short time ago.

The authorities at Dawson, Yukon, have telegraphed to the outside for 10,000 more vaccine points for use in enforcing the compulsory vaccination ordinance recently passed.

Dr. Walter Reed, surgeon U. S. A., has been detailed as the representative of the medical department of the army at the Pan-American Medical Congress at Havana.

Mrs. Anna M. Holstein, who during the civil war attained considerable fame as an army nurse, recently died at her home at Red Hill, Pennsylvania, at the age of seventy-six.

Dr Chapot Prevost, who performed the operation on the xiphopagus monster, has been awarded a sum amounting to about $4000 as a prize by the Brazilian government.

The busts of Albrecht von Graefe and Karl Schweigger were recently unveiled with appropriate ceremonies in the newly erected lecture hall of the ophthalmic clinic at the University of Berlin.

Efforts are being made to establish a sanatorium in the Adirondacks for working women, young married women, and children suffering from consumption. It is hoped to obtain the money through private subscription.

THE oldest qualified physician in the world resides at Carlsbad. He is ninety-seven years of age, has been in practice for seventy-one years, and is in full possession of his mental faculties. His name is Ritter von Hochburger.

IN a contribution to the New York papers Dr. S. A. Knopf recently made the suggestion that the money which was collected for the purpose of erecting a permanent Dewey arch be used instead in the building of a sanatorium for the consumptive poor of the city of New York.

THE sanatorium for consumptives, which was established by the government at Fort Stanton, New Mexico, has been a great success. In the first year and a half of its existence ninety-two patients were admitted from various marine hospitals, twelve of whom were discharged as recovered and fifteen as improved.

DR. CARLOS FINLAY was recently tendered a banquet by the physicians of Havana in token of congratulation that his theory of the transmissibility of yellow fever by the mosquito, which he has been proclaiming for many years in the face of opposition and ridicule, has at last received scientific recognition and acceptance.

DURING the current winter semester the number of women on the register of the Berlin University is 371, of whom 253 are Germans and 118 foreigners. Of the Germans 111 belong to Berlin. Statistics of age are not given, but there is at least one sweet girl undergraduate of sixty-one summers who is repairing the deficiencies of her early education by studying German philology and history. Last winter the number of female students in the University was 431. The cause of the diminution is said to be that stricter regulations have been passed for the admission of Russian women. Women were first admitted to the University in the summer of 1896.

THE following officers were elected in the national societies which recently met in Baltimore: American Psychological Association—Prof. Josiah Royce, president; Dr. Livingston Farrand, secretary. Society for Plant Morphology and Physiology—Dr. Edward F. Smith, president; Profs. F. C. Newcombe and L. M. Underwood, vice-presidents; Prof. W. F. Young, secretary and treasurer. American Morphological Society — Prof. J. S. Kingsley, president; Prof. E. A. Andrews, vice-president; Prof. T. H. Montgomery, Jr., secretary. American Association of Bacteriologists — Prof. William H. Welch, president; Prof. E. O. Jorden, vice-president; Prof. H. W. Conn, secretary and treasurer.

At a recent meeting of the Société de Chirurgie of Paris, M. Chaput related a very remarkable experience. The wife of a medical man had been twice operated upon for extra-uterine pregnancy, and symptoms of intestinal obstruction necessitated a third laparotomy in 1891. This operation was followed by the formation of a pyostercoral fistula, which continued to discharge until June, 1898, when M. Chaput performed median laparotomy, and after a good deal of trouble he alighted upon a soft tumor in the neighborhood of the sigmoid flexure, which led him to suspect the presence of a foreign body. This proved to be a square gauze tampon, measuring fifty-two centimeters across, which had been left in that position since 1891. Recovery was uneventful.

According to the *Journal of the American Medical Association*, an increase of ten per cent in the drug business for the year just closed was recorded. The trade had its sensational features, and in some respects was materially different from previous years. The war in China produced material advances in all Chinese drugs, but part of them were lost. In quinine there was an advance from 32 to 39 cents, but large importations of bark produced a reaction to the low point, and the close was heavy. Castor oil jumped up 12 cents and camphor 16 cents. The latter was due to a large consumption and a reduction in supplies. The increased demand for bismuth for army use caused an advance of nearly 50 cents. The most sensational change was in cocaine, due to various influences. Early in the year it sold from $6.20 down to $3.50, but advanced to $6.75. The enlarged consumption of carbolic acid in the African war reduced European supplies, and prices advanced fifty per cent. The year was not without material declines, among the most noticeable being a drop of 50 cents in salol. The drug sundries had a large sale, but they are handled more extensively now by dry-goods houses and department stores than by wholesalers of drugs. The aggregate business of the year was $10,000,000.

NEW PUBLICATIONS.

INTERNATIONAL CLINICS.

The current volume of International Clinics contains the usual number of excellent lectures, covering the whole field of medicine and surgery. Among the notable articles in the present volume must be mentioned the admirable monograph of Dr. T. S. Westcott on the Scientific Modification of Milk.

International Clinics. A Quarterly of Clinical Lectures and Especially Prepared Articles on Medicine, Neurology, Surgery, Therapeutics, Obstetrics, Pediatrics, Pathology, Dermatology, Diseases of the Eye, Ear, Nose, and Throat, and Other Topics of Interest to Students and Practitioners, by Leading Members of the Medical Profession Throughout the World. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, U. S. A., with the Collaboration of John B. Murphy, M.D., of Chicago, *et al.* With Regular Correspondents in Montreal, London, Paris, Leipsic, and Vienna. Volume III. Tenth Series, 1900. Philadelphia: J. B. Lippincott Company, 1900.

CUSHNY'S PHARMACOLOGY.

A second edition of the author's admirable manual of therapeutics testifies to the appreciation in which the work is held by students and practitioners. The work covers the whole field of modern therapeutics, and supplies a comprehensive explanation of the reasons for giving drugs. Many admirable remarks are included regarding the unsupported claims for new vegetable and chemical products, thus making the work additionally valuable as a clinical guide. The volume is systematically arranged and very carefully indexed.

A Text-book of Pharmacology and Therapeutics, or the Action of Drugs in Health and Disease. For the Use of Students and Practitioners of Medicine. By Arthur R. Cushny, M.A., M.D., Aberd. Professor of Materia Medica and Therapeutics in the University of Michigan Medical Department, Ann Arbor. New (2d) Edition. In One Handsome Octavo Volume of 732 Pages, with 47 Engravings. Cloth, $3.75, net. Philadelphia and New York: Lea Brothers & Co., 1901.

DETACHABLE DIET LISTS.

This volume of diet lists for albuminuria, anemia and debility, constipation, diabetes diarrhea, dyspepsia, fevers, gout, obesity, and tuberculosis has already found a place on the table of many a physician. The usefulness of these lists is only equaled by their obvious merit.

A Book of Detachable Diet Lists for Albuminuria, Anemia and Debility, Constipation, Diabetes, Diarrhea, Dyspepsia, Fevers, Gout or Uric Acid Diathesis, Obesity, Tuberculosis, and a Sick-room Dietary. Compiled by Jerome B. Thomas, Jr., A.B., M.D. Second Edition, Revised. Philadelphia: W. B. Saunders, 1900.

RUDIMENTS OF MODERN MEDICAL ELECTRICITY.

Medical students do not, as a rule, find the subject of medical electricity one which is particularly easy to acquire. This little work arranged in question and answer form will much facilitate their understanding of many of the problems of electricity.

Rudiments of Modern Medical Electricity. Arranged in the Form of Questions and Answers, Prepared Especially for Students of Medicine. By S. H. Monell, M.D. (New York). New York: Edward R. Pelton, 1900.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Resection of the Posterior Nerve Roots for Sciatica.

Giordano (*Gazz. degli Osped.*, Dec. 9, 1900) records the case of a patient with persistent sciatica, which was cured by resection of the posterior nerve roots. After many drugs had been tried, the neuralgia was temporarily cured by exposing and stretching the sciatic nerve. A few months later the patient returned, suffering as much as ever, and after medical means had been tried the spinal cord was exposed through the posterior arches of the eleventh and twelfth dorsal and first lumbar vertebræ. The posterior nerve roots were resected in the whole of the exposed area. Pain ceased immediately, but on the second day some neuralgia occurred in the course of the internal saphenous, etc., probably owing to incomplete section of the roots. As this persisted for a few days, the saphenous nerve was divided near the tibia. From that time (April 20, 1900) to the present the patient has had no pain, but complains of the "dead" feeling and want of sensation in the leg.

A Case of Diffuse Leontiasis Ossea.

E. H. E. Stack reports, in the *Bristol Medico-Chirurgical Journal* for December, 1900, a case of this very uncommon affection, called by Ziegler "partial gigantism," which affects the bones of the cranial vault as well as those of the face. The overgrowth is sometimes uniform, at other times irregular. The etiology of this disease is obscure. The enlargement of the bones must be either simple hypertrophy, new growth, or chronic osteitis. The case reported by the writer is that of a young child, in whom the post-mortem examination showed the skull to be enormously and almost uniformly thickened. All the bones were affected, including those of the face. The cerebellar portion of the skull was very protuberant, dipping down toward the neck, and measured in thickness here almost three inches. The forehead was very large and rounded.

Observations on Lateral Curvature of the Spine.

A. M. Phelps (*New York Medical Journal*, Jan. 5, 1901) takes a very gloomy view in regard to the ultimate recovery of those individuals affected with lateral curvature of the spine. He advises the

use of an aluminum corset as a substitute for many of the braces and corsets now worn in the acute form of Pott's disease and lateral curvature. As soon as a case of lateral curvature has been arrested or the greatest amount of benefit has been derived from other treatment, the aluminum corset will be found a most agreeable and permanent support. He says that the corsets made of wood, celluloid, paper, wire, and leather have been found by him to be entirely worthless, owing to the fact that they change in shape and do not support the spine.

MEDICINE.

Diphtheritic Paralysis; Apnea; Artificial Respiration; Cure.

Ebstein (*Deutsche Med. Woch.*, Dec. 6, 1900) reports *in extenso* the case of a child, ten years of age, who was admitted into the medical clinic at Göttingen on account of paralysis of the palate and tongue and paresis of the vocal cords five weeks after undergoing a severe attack of diphtheria (which had been treated without antitoxin injections). Almost seven weeks after the onset of the disease the child, who that morning had complained of general lassitude, was suddenly taken with the most violent dyspnea, which soon turned into complete apnea. Artificial respiration was resorted to for five hours, by which time the symptoms improved. Other similar spells occurred at various intervals during a whole week, and required persistent use of artificial respiration extending over periods of ten and a half, thirty-four, eight, and nine hours respectively. The first impulse, of course, had been to ascribe this apneic condition to the presence of accumulated mucus, but such was not the case; nor could a limited focus of pneumonia at the right base, nor the concomitant mild bronchitis, account for the respiratory trouble. Ebstein holds that a pathological toxin influencing the respiratory centers was the probable cause of the trouble, but is uncertain whether it originated from the long-past diphtheritic infection or the present pneumonic affection. At any rate the little patient's life was saved by the faithful and persistent use of Sylvester's method.

Clinical Varieties of Bright's Disease.

J. R. Bradford (*Lancet*, Jan. 6, 1901) says that we may recognize two forms of Bright's disease, one characterized not only by the well known urinary changes but also by the presence of dropsy; the other where dropsy is absent and where the distinction between the acute Bright's disease and mere congestion of the kidney is by no means

easy. There are at least two forms of chronic Bright's disease: one where the patient secretes a scanty, highly albuminous urine, and becomes markedly dropsical, the course of the malady being chronic and death occurring usually either from the mere water-logging of the tissues, or from the development of inflammatory complications, or from chronic or subacute uremia. The second form of Bright's disease is where the symptoms often run a latent course for an unknown period, and where the patient ultimately seeks advice on account of very vague symptoms of ill health, such as wasting, loss of strength, circulatory disturbance, or even where he does not seek advice until the onset of acute and fatal uremia. In this form of the disease dropsy is absent, the urine is abundant and pale, and it contains a considerable quantity of albumin. It would seem that not only may chronic Bright's disease be chronic from the outset, but also that the two varieties of chronic Bright's disease are not necessarily different stages in one and the same morbid process, but represent rather the different effects of perhaps the same morbid process.

Throat Symptoms in Scarlet Fever.

Variot (Soc. des Hôp., Oct. 26, 1900) reports having noted that out of 525 cases of scarlet fever 150 ran their whole course without the appearance of exudate. In 375 others the exudate either remained circumscribed or showed a tendency to invade extensive surfaces.

In a little over one-half of these cases in which the scarlatinal sore throat assumed pseudomembranous characteristics (62 times out of 102) the merely clinical symptoms were insufficient to perfect a positive diagnosis of diphtheria, and bacteriological examination became necessary to determine whether the case was one of true diphtheritic sore throat (30 times) or of pseudodiphtheritic angina. Bourges and Wurtz hold that anginæ, which at the end or during the convalescence of scarlet fever assume the pseudomembranous type, are of truly diphtheritic origin. Variot, however, contends that even early cases of scarlatinal angina may be of diphtheritic origin. He is convinced of the necessity of giving antitoxin injections as soon as the sore throat evinces a tendency to assume pseudomembranous characteristics, irrespective of the period of the disease, and without waiting for bacteriological confirmation of the diagnosis.

Saliva in Diseased Conditions of the Body.

Over one hundred cases of disease of various kinds have been investigated by Dr. W. G. A. Robertson (*Journal of Pathology and Bacteriology*, December, 1900) in order to see if the activity of the

salivary ferment was altered. In gastrointestinal disorders twenty-one cases were investigated. The average amount of sugar formed in these was 0.089 gramme. In chronic gastric catarrh this figure varied from 0.078 to 0.1 gramme. In one case of great dilatation of the stomach the salivary ferment proved to be almost absent or at least inactive in the saliva. In the group of lung diseases investigated, generally the salivary ferment was fairly active, and on an average 0.087 gramme of sugar formed. In the cases of phthisis which were examined, ptyalin was present in normal amount, as the sugar formed almost always reached the standard quantity. In a large group of heart cases the saliva retained its usual composition, and the amount of sugar formed in the experiments hovered at or about the normal limits. Of three cases of Addison's disease examined, the saliva of two showed marked deficiency in its power of starch digestion, while the third exceeded the normal limit. Taken altogether, the group of renal diseases showed a lower average than the normal.

Coffee as a Beverage, and its Frequent Deleterious Effects upon the Nervous System.

W. M. Leszynsky (*Medical Record*, Jan. 12, 1901) says that the habitual daily indulgence in coffee, even in moderate quantity, by those who are oversensitive to its action, invariably leads to persistent functional disorder of the nervous system, as well as to disturbance of digestion, which rapidly subsides when it is discontinued. Some physicians believe that coffee without the customary milk and sugar never disturbs the gastric function. While this assertion is often substantiated by clinical observation, it must not be accepted without reserve, for digestive trouble frequently occurs in those who indulge excessively in coffee, without the addition of either milk or sugar. The nervous system of children is peculiarly susceptible to the effects of coffee, and its use should never be permitted. The writer says he has often seen night terrors, insomnia, and tremulousness disappear after the withdrawal of coffee from the dietary of children. Many cases of nervousness find their origin in those individuals in whom the coffee habit is well established.

Infection of the Pleura.

J. A. Grober (*Deutsches Archiv f. Klin. Med.*, Bd. lxviii, Heft 3–4) discusses the infection of the pleura irrespective of the encroachment of inflammatory processes in the neighborhood, and considers there are three sources—the air-passages, the mediastinum, and the cellular

tissue of the apices. As to the air-passages, Grober made experiments by forcing animals to inhale very finely powdered pigment, and then found the pigment granules in both layers of the pleura, with black coloration of the lymphatics along the border of the ribs.

Clinically, he found that some cases of pleuritis in conjunction with retropharyngeal abscesses and inflammation of the mediastinum accounted for the source of infection. Grober also injected into the tonsils of two dogs an emulsion of pigment, and after six days could demonstrate upon autopsy the granules in the lymphatics of the supraclavicular region and in the mediastinal and subpleural lymph nodules, which are points in the lymphatics coming from the pleura.

The author considers that this method of distribution from the supraclavicular glands accounts for tuberculosis from the apices.

The Disinfection of Affected Typhoid Urines.

N. B. Gwyn (*Philadelphia Medical Journal*, Jan. 12, 1901) says that in from twenty to thirty per cent of cases of typhoid fever, typhoid bacilli may be present in the urine. When present they are usually in pure culture, and may be so numerous that the urine is turbid when freshly voided. They appear generally in the second and third week of illness, and the organisms may persist for months or years. The writer says that generally danger of infection from infected typhoid urine must be clearly evident from these facts. He says that it is more than probable that urine, by reason of its apparent harmlessness, plays, and has played, the most important part in the spread of typhoid fever, and unless we can prove that a patient's urine is free from infectious material, we commit a great folly in letting it be disposed of without disinfecting it. The writer strongly urges the use of bichloride of mercury for disinfecting the urine of typhoid patients.

Stomach Perforation from Caustic Soda.

Kirste, at the Nuernberger Medicinische Gesellschaft, October, 1900 (*Münch. Med. Woch.*, No. 2, 1900), reported the case of a three-and-a-half-year-old child who was suddenly taken with severe vomiting and pain in the abdomen. Examination revealed a general peritonitis. Six weeks before the child had drunk some caustic soda solution; the stomach was then washed out, and the child afterwards appeared perfectly well. The patient had eaten everything that had come on the table, until the above vomiting and pain suddenly appeared. The parents would not consent to a laparotomy, and in

two days the child died. The autopsy revealed a purulent peritonitis, and on the posterior wall of the stomach near the pylorus were two small perforations.

Bacteriology of Bronchitis.

Acute bronchitis, according to W. T. Ritchie (*Journal of Pathology and Bacteriology*, December, 1900), is an infective disease. It is not due to any specific microorganism; various bacteria are found in the bronchitic secretion. Some of these bacteria are exciting causes of the bronchitis. The disease is more often due to mixed infection than to the action of one form of bacterium alone. The most important causal bacteria are the diplococcus pneumoniæ and streptococci. The influenza bacillus, says the writer, not infrequently causes bronchitis apart from epidemic influenza.

Motor Sufficiency of the Stomach.

Heichelheim, of Professor Riegel's clinic (*Zeitschrift f. Klinische Medicin*, Bd. xli, Heft 5 u. 6) says that iodipin does not split up and liberate iodine until it reaches the intestines, where probably the bile has some action on it, for an alkaline solution alone has no effect. The demonstration of iodine in the saliva after administration of iodipin is sufficient to indicate the motor power of the stomach. The iodine occurs in the saliva with a normal stomach after fifteen minutes, and with motor insufficiency it does not occur for an hour or more.

A New Diagnostic Method.

J. Ferran, of Barcelona (*Zeitschrift f. Tuberkulose*, etc., Heft 3, 1900), says that in the neighborhood of tubercular processes of the lung there develops a saprophytic form of Koch's bacillus, which has the power to form spermin. Three to four cubic centimeters of the suspected sputum, which under the microscope has revealed no bacilli, is mixed with ten cubic centimeters of sheep's serum in a sterile dish and allowed to remain thirty-six hours in an incubator. In all cases one can detect the characteristic odor of spermin in the culture.

Alopecia Following Thallium Acetate.

A. Buscke (*Berliner Klinische Wochenschrift*, No. 53, 1900) followed up the observations of Giovannini that tubercular patients who were taking thallium acetate lost patches of their hair. He

fed small doses to mice in their food, and upon different parts of the body the hair fell out. It does not appear that the drug has any direct action on the hair, but rather upon the nervous system, causing a neuropathic disturbance.

THERAPEUTICS.

The Treatment of Consumption with Cacodylic Acid.

The following points by Prof. A. Gautier, of Paris, on the treatment of consumption with cacodylic acid, may be of interest:

Cacodylic acid is an organic compound of arsenic. The arsenic is present in a soluble form, and it is asserted that it is easily tolerated by the organism. Some indeed go so far as to say that the sodium salt may be taken for several years without habit being established, and this in spite of the large percentage of arsenic present, ten centigrammes of cacodylate of sodium being equivalent to six centigrammes of arsenious acid. The drug is given hypodermically, the solution for injection being prepared by Professor Gautier as follows: Cacodylic acid, 5 grammes. Saturate exactly with sodium carbonate; then add hydrochlorate of cocaine, 0.08 centigramme; creosote (dissolved in 8 grammes of alcohol), 5 drops; boiled distilled water, q. s. ad 100 cubic centimeters. One cubic centimeter of this solution contains five centigrammes of cacodylic acid. Owing to the presence of creosote the solution keeps perfectly well, but is now generally sold in glass tubes hermetically sealed.

The injections, which are painless, are given daily for seven or eight days, followed by ten days without treatment, and then a fresh series is begun. The dose of cacodylic acid should not exceed 0.10 centigramme per diem, the average daily dose being 20 to 50 milligrammes. Professor Gautier always gives at the same time small doses of potassium iodide (10 to 15 centigrammes per diem), because he has found that in animal and vegetable life arsenic is always accompanied by iodine. The cure of tubercle is always slow, and the fever, if present, only falls a few tenths of a degree each month. If the appetite has been lost, it always returns after the third or fourth injection of a dose of 30 to 50 milligrammes of cacodylate of sodium, while the patient's weight and strength increase. The treatment should be stopped when signs of commencing saturation appear, as indicated by breathlessness, rise of temperature, and congestive flushings of the face. When given by the mouth the drug is most unstable, becoming rapidly changed into toxic-derived products, which being

volatile produce in the breath and urine an intense and disagreeable odor of garlic. In addition, it causes epigastric pain, gastrointestinal disturbance, a feeling of lassitude, with loss of weight, and occasionally diarrhea. When given by the mouth or per rectum the drug causes renal congestion, with albuminuria, and a fall in the quantity of urine excreted, as the Professor proved experimentally on himself.

Olive Oil in Gall-stones.

Witthauer (*Münch. Med. Woch.*, Oct. 23, 1900) holds that the repeated occurrence of intense, and at times unbearable, pain in the epigastric or hepatic region should always awaken a suspicion of gall-stones, and believes that—unless accompanied with protracted fever and plainly discernible distention of the gall-bladder—all these cases are amenable to permanent cure by simply therapeutic means. Frequent recurrence and increasing intensity and duration of the colic, which point to permanent impaction of the stone, are, of course, possible of surgical interference only.

The oil may be exhibited per os with the addition of a few drops of essence of peppermint, or followed with a small amount of brandy or kümmel. Only those patients who finally rebelled against the oil were subjected to rectal injection, in which case a good brand of cottonseed oil was substituted for economical reasons.

Olive oil per rectum is a powerful cholagogue. The injections should be taken in the exaggerated lithotomic posture, and from four to five hundred cubic centimeters of the best olive or sesame oil injected under pressure of from one-half to one meter (two to four feet) above body level, after which the patient assumes for about five minutes the lateral decubitus on the right side. These injections should at first be given daily, after one or two weeks every second day, and later on spaced as required. The appearance of premonitory symptoms ushering in a recurring attack should be met with more frequent injections.

This treatment has afforded such brilliant results that both in hospital and private experience extending over twelve years Witthauer has been compelled to seek surgical relief in not more than five or six cases all told.

Treatment of Pneumonia.

Thomas R. Brown (*Maryland Medical Journal*, January, 1901) says that a consideration of the best articles by the best men in this country and in Germany teaches us that in our present state of knowledge the best results will be obtained by careful nursing, diet, and

hygiene; by the systematic use of hydrotherapeutic measures during the entire course of the disease, cold sponging and cold packs seeming to be more practical than the full tub in most cases, certainly in adults; with very little use of drugs of any sort, except, when the heart requires it, some stimulant, the most serviceable being either alcohol or strychnine. Perhaps a dose of morphine may be needed to relieve the pleuritic pain if the ice-bag does not furnish relief. To these must be added the use of saline infusions whenever required, and the use of various inhalations, with or without oxygen, to allay bronchial irritation, while greater care should be exercised in prophylactic measures by disinfecting the pneumonic sputum in the sick-room.

The writer says that while there is nothing either very radical or very striking in these suggestions in regard to the treatment of pneumonia, they at least call attention to the fourfold results of the work in this line during the past few years: (1) The growing tendency toward hydrotherapeutic measures, and away from the systematic use of drugs of any kind; (2) the increasing use of saline infusions in this disease; (3) the need of greater attention to prophylactic measures; and (4) the holding out of a greater semblance of hope that in the near future an effective method may be obtained for directly combating the toxemia by the preparation and use of an antipneumococcus serum.

The Treatment of Epilepsy.

L. Pierce Clark (*Medical Record*, Jan. 12, 1901), in an article on the modern surgical and medical treatment of epilepsy, summarizes the present-day medical treatment of this affection with the bromides as follows:

1. By a combination of diet, regular occupation, and personal hygiene, the bromides give the best results in treating idiopathic epilepsy.

2. The bromides, singly or combined, still remain our chief sedative for the epileptic state—in the young epileptic, to secure a possible entire suppression of attacks and ultimate cure of the disease; in the adult, an amelioration of frequent paroxysms and comparative physical and mental comfort.

3. The bromides to be effective in chronic and long-standing cases must be given in large daily doses to suppress convulsions, from gr. ccc–cd if necessary. They should be given gradually to find the sedative level, at which level it is the physician's principal duty to maintain them with physical and mental comfort to his patient.

4. Hot and cold baths, high enemas, alimentary antisepsis, and massage are absolutely essential to successful bromide medication.

5. Bromine is a worthy substitute for the bromides in many cases in which the latter are contraindicated or cannot be given in high dosage.

6. Salt starvation or semisalt starvation is a great adjuvant to the bromide treatment, and should be thoroughly tried in all cases in which bromides or bromine are apparently contraindicated before they are discarded.

Geranium Maculatum in Hemorrhages.

Gomez de la Mata (*Los Nuevos Remedios*, Aug. 25, 1900) considers that geranium maculatum is without a peer in the treatment of internal or external hemorrhage. One drachm of the fluid extract exhibited every hour will control hemoptysis, and prevent its return if continued in smaller dosage for two or three days. Twenty minims of the fluid extract four times a day has been of considerable advantage in the management of renal or intestinal hemorrhage. Both epistaxis and metrorrhagia can be controlled with cotton pledgets dipped in a mixture of one part of fluid extract to three of water.

Geranium maculatum has also proven of advantage in purpura, hemophilia, chronic diarrhea, typhoid fever, cholera infantum, etc.

In chronic bronchitis and bronchorrhea Gomez recommends the following mixture:

℞	Tinct. nucis vomicæ	4 grammes.
	Tinct. sanguinariæ	4 grammes.
	Fluid. ext. geranii macul	6 grammes.
	Syr. sacchar	q. s. ad 60 grammes.

One drachm should be given every four hours.

The large amount of tannic acid represented may render the preparations of geranium very useful in cases of poisoning with iodine, mercury, silver, copper, antimony, digitalis, hemlock, tobacco, calabar bean, belladonna, and aconite.

The powder is to be given in doses of from 8 grains to ½ drachm, the alcoholic tincture in from ½- to 2-drachm doses, and the fluid extract at the rate of 10 drops to 1½ drachms. The latter is the preferable form of exhibiting the drug.

Ichthargan in the Treatment of Gonorrhea.

Lohnstein (*Allgem. Med. Centr. Ztg.*, Oct. 6, 1900) says that this drug possesses a special interest because it combines the properties of two valuable medicinal substances, ichthyol and silver. In theory,

such a composition ought to possess great antibactericidal properties. He reports the best results from the use of this drug in recent gonorrhea. The strength of the solution employed varied from $\frac{1}{50}$ to $\frac{1}{8}$ per cent. Injections of this solution were to be begun at the very first of the attack. The usual balsamics were given inwardly.

Ichthargan is a brown, amorphous powder, with an odor resembling that of chocolate. The amount of silver in it is at least thirty per cent. It is readily soluble in water, glycerin, dilute alcohol, ether, and chloroform.

The author has thus far employed this remedy in 187 cases of gonorrhea, in which 124 were acute. He used the solution in the form of a douche. The urethra having been cocainized, a soft catheter was introduced, and a warm, weak solution was allowed to enter by gravity from a moderate height. The irrigation strength of the ichthargan solution was 1:4000 or 1:5000; this strength could be increased to 1:2000 in select cases. The majority of the writer's cases were cured in from two to three weeks.

Treatment of the Tympanites of Typhoid Fever.

Tschernoff (*Med. Obosrenie*, No. 5, 1900; *Rev. de Thér. Méd. Chir.*, Nov. 15, 1900, p. 772) considers that meteorism in typhoid fever is mainly due to (1) abnormal formation of gases in the bowels, and (2) to incipient intestinal paresis. The main element of treatment therefore consists in suspending, as far as possible, the production of gases due to fermentation, and correcting at once any functional disturbance of the gastrointestinal tract, whatever its characteristics.

Intestinal antiseptics are indicated in case of diarrhea, enemata for constipation. Atonic paresis of the intestinal wall is mostly traceable to neuromuscular poisoning by the products of pathological fermentation. In such case Tschernoff recommends the local application of ice, which not only cools off the abdominal parietes, but also the entire abdominal contents. In this manner one may expect to see the intestinal and peritoneal inflammation amended, the fermentative disturbances corrected, and peristaltic action reestablished or sustained, while the formation of gases is suspended and the tympanites disappears.

Di-iodo-salicylate of Soda in Soft Chancre.

Foloff (*Rev. de Thér. Méd. Chir.*, Nov. 15, 1900) reports having treated forty patients affected with soft chancre by means of di-iodo-salicylate of soda dusted over the wounds twice or three times a day, after careful washing with a warm solution of boric acid, and comes to the following conclusions:

1. The drug, which has over iodoform the advantage of being odorless, is of decided benefit in the treatment of soft chancre.

2. In almost every instance the use of the powder is followed by a rapid cleansing of the ulcerated surfaces, more especially if at the end of the treatment the drug is used in the strength of two-per-cent with powdered talcum.

3. In recent cases, and where the lesions are circumscribed, a ten- to fifteen-per-cent mixture with talcum is often sufficient.

4. Pure di-iodo-salicylate of soda is caustic; protracted action may bring about peripheral destruction, which property may, however, prove of considerable benefit, since it allows, when properly watched, to dispense with the use of lunar caustic.

5. The drug is not so painful to endure as the sozoiodolate of sodium; in fact, its use is in some cases entirely devoid of pain.

Peruol in the Treatment of Scabies.

Sachs (*Deutsche Med. Woch.*, Sept. 27, 1900) has experimented upon thirty-five cases of scabies with a new preparation, peruol, a benzylic ether of benzoic acid, which occurs as one of the component parts of Peru balsam in the form of a colorless, non-toxic oil almost devoid of odor.

Sachs made use of the synthetic product diluted with three or four volumes of some unirritating oil—*e.g.*, castor oil. The drug is applied with energetic friction three times within thirty-six hours. The final cleansing bath should be postponed from three to four days. Ten of the cases thus treated, which were complicated with eczema, furunculosis, etc., healed like the rest without any complication, the urinary secretion always remaining normal even in weakened, anemic, underfed individuals. A child four months old showed no more untoward effects than any other case under observation.

In four cases there was a return of the trouble, most probably due to reinfection.

To sum up, the antiparasitic effect is certain, no deleterious influence has been noted either on the skin or on the internal economy, and the remedy is devoid of odor. Peruol, however, is as yet a rather expensive drug.

On the Influence of Rhodan (Sulphocyanates) in the Secretions upon the Production of Iodism.

From experiments conducted with a view to determining if irritation of the salivary secretory nerves (chorda tympani and plexus tympanicus), in their passage through the middle ear affected with otitis,

might influence the composition of the saliva, Muck (*Münch. Med. Woch.*, Dec. 11, 1900) concludes that almost every case presenting sulphocyanates in the saliva became subject to the symptoms of acute iodism ranging in intensity from iodic acne to general nausea, while patients in whom the sulphocyanate reaction was either temporarily or permanently deficient experienced no trouble in taking a course of iodides.

The test was made with a solution of chloride of iron acidulated with a little muriatic acid. Saliva which contained sulphocyanate gave with this reagent a deep brownish-red coloration similar to that obtained with the saliva of smokers under the chloride of iron test.

A complete absence of sulphocyanate was proven by the use of the very sensitive iodic acid test. Only those mucosæ whose secretion contains sulphocyanate partake of the symptoms of iodism—conjunctivæ, nasal mucous surface, mouth, etc.

Prophylaxis and Abortive Treatment of Gonorrhea in the Male.

Kopp (*Münch. Med. Woch.*, Nov. 27, 1900) reports positive results from the use of Welander's plan of treatment. A small applicator covered with absorbent cotton is passed through the meatus into the navicular fossa, the mucous membrane of which is thoroughly rubbed out even to the point of producing slight capillary bleeding, after which it is painted with a two-per cent solution of nitrate of silver (or a twenty-per-cent solution of protargol-glycerin). This painting is to be repeated on the following day. The subsequent inflammatory reaction is of short duration, as well as the concomitant pain. Out of seventeen cases presenting for treatment within forty-eight hours after the infecting coitus, Kopp has obtained success in four patients who came to him not later than ten to twelve hours after infection.

The Pupil as an Index of the Efficient Dosage of Bromides.

Gilles de la Tourette (*Semaine Médicale*, No. 41, 1900) calls attention to the fact that in the course of treatment with bromides, in case the patient receives a lower dosage than he can physiologically stand, the pupil will remain moderately dilated, and respond as usual to light and accommodation. At a higher dosage the pupils dilate and respond more slowly to light and accommodation, while at a still higher degree the pupils, in maximal dilatation, are no longer influenced. The ideal is to secure the condition of slow reaction combined with permanent dilatation, at which period we may be pretty sure to have reached the proper and effective dosage.

Bearing of the Gonococcus upon the Treatment of Chronic Gonorrhea.

Wossidlo (*Deutsche Med. Woch.*, Nov. 29, 1900), from a study of the bearing which the persistence of gonococci in the secretions of chronic gonorrhea should have in determining the course of treatment, comes to the same conclusions as Oberlander, Kollmann, Hodara, etc., to wit: that such occurrence must not be taken as contraindicating the dilatation treatment, which, on the contrary, promotes a rapid disappearance of the gonococci, so that far from protracting treatment, the cold sound actually shortens the process and effects a quicker cure.

Wood Charcoal a Substitute for Iodoform.

Fraenkel (*Wiener Klin. Woch.*, 1900) demonstrated in a series of twenty-one cases that carbo ligni constitutes a splendid substitute for the poisonous iodoform, to which it proved inferior only as a deodorant.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Lecturer on Dermatology, Detroit College of Medicine.

Recent Clinical Observations upon Tinea Versicolor.

In "Jubiläums-Festschrift für Prof. Dr. Isidor Neumann, Vienna," Dr. Charles W. Allen, of New York, Member of the American Dermatological Association, says in part:

"I have several times recently observed the affection upon the face, in two of which instances it extended from the region of the neck to involve the cheek. In the case of the boy who was at the same time a favus subject the lesions were seen to extend well up toward the hair line in front of the ear. Upon the opposite side they extended over the cheek on a level with the lobe of the ear. The regions involved have been painted with iodine, which serves as an excellent method of bringing out into relief the patches, especially when they are only light-colored or pink. Here the value of the iodine test was strikingly shown. Clinicians of large experience know that persons in perfect health are affected as well as the debilitated. In the practice of a lung and heart specialist naturally the vast majority of the subjects showing tinea versicolor will be those suffering from phthisis, while in my own personal experience it is rather the exception to find consumption, or indeed any other severe disease, coexisting. Likewise I have not been able as yet to verify

the statement quoted that dyspepsia and seborrhea are almost invariably present.

"A year or more ago I pointed out the clinical observation that there is not infrequently to be found in the pubic region of men, as well as of women, one or more round patches of tinea versicolor which, having escaped detection, serve as a source of reinfection of the trunk after treatment has removed all signs of the disease. These patches hidden by the hair receive no treatment, since their existence is not suspected by the physician or the patient. In a large number of patients who have presented themselves in one of their recurrent attacks (which are so well known to form a marked feature of the affection), my search for hidden lesions in this region has been amply rewarded. There is one other source of reinoculation from latent or lurking disease germs to which sufficient attention has not been directed. The affection is almost invariably spoken of in the books as involving the superficial epidermis alone.

"Now if the outlying little islands surrounding the larger plaques are closely examined in the earliest stages of their formation, it will be seen that they spring from a fine lanugo hair or from a follicular opening as a central starting-point. From this follicular origin the pinkish macule slowly spreads out equally in all directions as a rule, becoming darker in hue or pigmented. Very little treatment, as is well known, suffices to remove all that is to be seen of the affection upon the surface of the skin, but if the iodine test is now applied these follicular points will be seen to take the stain deeply, indicating that some of the fungus is still present and that treatment must be persisted in. Otherwise it is often only a matter of time before a renewed outbreak comes as a surprise to the patient, and unfortunately, perhaps also to the physician."

A Clinical and Pathological Study of the Rash of Scarlet Fever.

In a paper entitled as above, presented to the Section on Diseases of Children, American Medical Association, June, 1900, Jay F. Schamberg, A.B., M.D., professor of diseases of the skin, Philadelphia Polyclinic, etc., suggests the following inferences:

1. The color of the rash in scarlatina varies in different individuals, and at different times in the same. Accurately speaking, it is never scarlet, and only occasionally bright-red. More commonly it is a dull red with an appreciable element of brown.

2. There are other elements of the eruption of scarlet fever besides the erythema, namely, puncta, vesicles, and goose-flesh papules, and these lesions occur with a considerable degree of constancy.

3. Vesicles are far more common in the rash of scarlet fever than is ordinarily believed. They are more profuse in intense eruptions, although they may be present in mild ones. The amount of desquamation is as a rule proportionate to the degree of vesiculation. Vesiculation may be so copious as to deceive the physician in his diagnosis.

4. Desquamation on the body begins as pin-point, powdery scales at the summits of the desiccated vesicles. Irregular or jagged rings of desquamation then form, which enlarge until the horny layer is completely shed.

5. Histologically, the rash of scarlet fever is a dermatitis exhibiting deep and extensive changes in the corium. The greatest degree of inflammation is exhibited about the hair follicles, which are frequently disintegrated by a serous and cellular exudate. Vesicles have their seat either in the epidermis or in the walls of the hair follicles. The persistence of desquamation and of the infectivity of the scales is to be accounted for by the depth of the pathological process in the skin.

The Iodine Test in Tinea Versicolor.

The iodine test consists in painting suspected areas, faintly marked patches, or those supposedly cured, with Lugol's solution or tincture of iodine. This gives a deep mahogany or dark-brown color, differing somewhat from that produced by its application to simple scaly conditions, in which fungous growths are absent.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

On Circulatory Phenomena as Sequelæ of the Pregnant Uterus.

R. H. Hodgson (*Medical Press*, Jan. 2, 1901) says of the many theories advanced as to the cause of labor at full term, none, in so far as he knows, attach sufficient importance to the blood-supply. To epitomize his ideas, Dr. Hodgson says that from the moment conception takes place a race commences between the uterus and the ovum. The uterus becomes rapidly active, its walls charged with blood; with wonderful celerity it lays down muscular tissue, and even its mucous membrane swells with pride at having captured a live ovum.

The ovum, at first an insignificant being in the uterine cavity, gradually develops and threatens the uterine walls, recognizing which

the uterus hastens on with both its development and expansion until the end of six months, when, finding that its competitor in the race, having won the inside of the circle, is pressing forcibly upon its food supply, it gives up the contest and allows the fetus to expand its cavity at will, with the ultimate result that the fetus, given a free hand, continues ruthlessly to press upon the uterine walls to such an extent that it cuts off its own blood-supply to the placenta, which thereupon dies. The fetus, beholding with fear what it has done, shrinks; the uterus, thereby released from some of its strain, seizes the opportunity, opens its mouth, belches forth its intruder, and collapses.

The Early Diagnosis of Incipient Ascites in the Female.

Landau (*Centr. f. Gynäk.*, Nov. 10, 1900) emphasizes the importance of early diagnosis of ascites, which often constitutes the first symptom of malignant, yet curable, disease if taken in time, and indicates the following sign for determining the presence of effused fluid in the abdominal cavity.

With the patient placed in the usual horizontal posture, the fingers, during bimanual palpation, do not meet on the sides of the uterus; it feels as if the womb rested upon an air or water cushion; while with the patient in the exaggerated lithotomy posture, pelvis elevated, thighs in adduction, and knees flexed, the fluid escapes toward the diaphragm, and the finding on bimanual palpation proves entirely modified: the fingers now meet around the womb. Where, by reason of more pronounced effusion, this differential finding becomes obscured or disappears, we still have the usual reliable symptoms which enable us to perfect a positive diagnosis.

RHINOLOGY AND LARYNGOLOGY.

UNDER THE DIRECTION OF WADSWORTH WARREN, M.D.

A Case of Foreign Body in the Maxillary Sinus Discovered by Radioscopic Examination.

Dr. Mignon, of Nice, reported in the *Internat. Archiv. de Laryngol.*, vol. xiii, No. 4, an interesting case in which the patient, a young man twenty-one years of age, with suicidal intent discharged a revolver against his temple. A few days after the incident, as no symptoms of reaction occurred, an examination by the radioscope was attempted, and it was found that the bullet was lying loose within the left maxillary sinus.

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ORIGINAL CONTRIBUTIONS.

COMPLICATIONS AND SEQUELAE OF TYPHOID FEVER.*

BY J. M. KRIM, M.D., LOUISVILLE, KY.

An essay on the subject of typhoid fever, its complications and sequelæ, should embrace all that is known of the disease; but the necessary limitations of a paper to be read before this society preclude such elaboration. And as there is no disease which has received more attention within the last six months, as the voluminous literature on the subject will affirm, I shall content myself by giving for consideration a few cases coming under my personal observation.

Typhoid fever, uncomplicated, as you have certainly observed, has modified considerably in virulence within the last twenty years, so that the mortality, in this locality at least, is not now over ten per cent (barring the recent epidemic). This is presumably due to better hygiene, drainage, and nursing; less feeding; not so much medication; and plenty of water externally and internally. However, the complications and sequelæ have not diminished in proportion to the improved conditions, and this is responsible for the present mortality rate.

Typhoid fever respects no age, as I will illustrate by the report of a case under my observation:

Mrs. M. E——, aged thirty-five years; married at twenty; mother of four children, the oldest aged fourteen, the second aged twelve. Both these children took to bed three days apart with fever which developed into typical typhoid. The mother (who was in the seventh month of utero-gestation) and a nurse attended them until their convalescence five weeks from the beginning of the disease.

*Read before the Louisville Clinical Society.

A few days later the mother complained of the general symptoms of typhoid fever, which was fully developed six days later. After two weeks of fever she gave birth to a fully developed male child weighing eight and three-quarters pounds. (She claimed a week too soon.)

After the child had been dressed, out of curiosity I took its temperature, and to my surprise found that it registered 102½° F. This was at ten o'clock in the morning; at six o'clock in the evening the temperature was 103½° F. The temperature ranged at about these figures for a period of seventeen days, when it came down to normal and the child made a good recovery. It was bottle-fed. The mother also recovered after six weeks of fever.

This was my youngest case of typhoid fever. My oldest was aged sixty-eight years, and the patient died with pneumonic complications.

As there is practically no part of the body which may not be involved in the complications and sequelæ of typhoid fever, it would be impossible in this paper to even mention them all; therefore I have selected two cases which I hope will illustrate a few points of general interest.

Mr. F. K——, aged seventeen years, had a typical case of typhoid fever of seven weeks' duration, complicated with endocarditis, which developed in the beginning of the fourth week. Ten days after the temperature had become normal he was awakened during the night with an intense pain in the scrotum. I saw him about an hour later and administered a hypodermic of morphine and atropine, and ordered hot applications to the scrotum. The following morning he was comparatively easy, but the scrotum was slightly larger than before. Hot applications were continued. In the evening of the same day the scrotum was considerably enlarged, pain more intense. Consultation was held, and the consultant agreed that the treatment instituted was right and proper. The next morning the scrotum was greatly swollen and very tense, but there was not much pain. The scrotum was punctured at various places to relieve the tension, which had good effect, as by the following day the swelling was considerably less; but the whole scrotum had a very dark color, and was insensitive to manipulation. The testicles themselves were very sensitive. The patient was feeling reasonably well, and there were no symptoms other than those mentioned. By the following morning the scrotum had collapsed, emitting a gangrenous odor, the testicles still being sensitive to the touch. The use of antiseptics considerably modified the odor.

On the seventh day after the onset of pain there was sloughing of

the entire scrotum, including a part of the integument of the pubes and root of penis, leaving the testicles with their envelope bare. By enveloping the testes in sterilized gauze and applying iodoformized oil to the sloughed parts, dressing it twice a day in the beginning and once a day later, he made an uninterrupted recovery in the course of a few months. At no time was there any difficulty in urinating.

E. W——, aged thirty-eight years, married, assisted her mother to nurse a younger sister confined to bed with typhoid fever. After four weeks' nursing she complained of general malaise, which developed into a typical case of typhoid fever seven days later. In the third week pleuropneumonia developed, involving the pericardium. Consultation was held and diagnosis confirmed. The patient was very sick for seven weeks, when there was a slight improvement, the temperature coming gradually down to normal two weeks later.

Four days after convalescence became established she complained of an intense pain in the left leg from the knee down. Under hot applications and a hypodermic of morphine and atropine she rested fairly well that night. The following morning the limb was edematous and cold, with no arterial circulation below the knee; the same evening there was some discoloration about the leg, but very little pain. A surgeon was called in consultation, who thought amputation might save the patient's life. Consent to the operation was given, but the operation itself was deferred until the next morning. The patient, however, succumbed to heart failure during the night.

NASAL SYPHILIS.

BY M. C. MORRIS, M.D., PHILADELPHIA, PA.

Of all common nasal conditions there is no one disease which so puzzles the doctors as nasal syphilis. Being a frequent disease, the practitioner who does not recognize the condition makes serious mistakes. One cause for mistakes is the great rarity of the occurrence of the initial lesion within the nasal cavity. Rarely, but occasionally, a chancre may be found within the nose, the infection being carried by the finger. This chancre may appear upon the alæ or in the vestibule, having the appearance of an ordinary furuncle. Later the glands become involved, and the sore indurated.

Secondary syphilitic lesions are also infrequent within the nose. Of these the more common is the syphilitic coryza. This has the appearance of a simple acute coryza, but is more obstinate, and is accompanied with more acute eczema around the nostrils and upon the upper lip. The coryza is very resistant to treatment, any local

application making little or no impression. With the coryza will appear the alopecia and skin eruptions—making the recognition of syphilis more easy. Mucous patches or papules may appear upon the nasal mucous membrane, but will probably not be seen, as they are exhibited only as slight elevations of skin, with no bleeding or ulceration. The secondary manifestations of syphilis appear most commonly in early infancy, snuffles being quite common. Snuffles is very liable to interfere with the nutritition and to hinder the growth of the baby, as while taking the bottle the infant is compelled constantly to stop the feeding to relieve itself of the coryzic sensations.

Rhinologically, the tertiary stage of syphilis is by far the most important, as its nasal lesions are very rapidly and virulently destructive. The third stage is shown by gummatous infiltrations, appearing upon any part of the nasal surfaces. The appearance of the gumma is characteristic, occurring either as a limited, circumscribed mass, or being extensive throughout the whole nasal chamber. The mass can, by using a probe, be felt to be hard and resisting, with, perhaps, certain few small spots of softening, indicating disintegration. The most characteristic deformity of syphilis is the "saddle-nose," due to the depression of the nasal bones when their support, the perpendicular plate of the ethmoid, breaks down. In nearly every case the "saddle-nose," if not caused by some injury, can be conceded to syphilis. It is not the displacement of the septum or of the vomer that causes the nasal bones to be depressed, but the disintegration or displacement of the perpendicular plate of the ethmoid.

To distinguish syphilis from atrophic rhinitis, that disease with which it is too often confounded, the nasal chamber should be thoroughly washed and the yellow crusts on the mucous membrane cleared away. Under these crusts the mucous membrane is perfectly intact—no hemorrhage, no ulceration, no breach of tissue is found in the atrophic rhinitis. Lupus can be differentiated from syphilis, as the former commences on the face externally. A tuberculous ulcer is limited to the cartilaginous septum, the gumma appearing in any locality. In tuberculosis the ulcer is inactive, the mucosa pale, not inflamed. The mucous membrane in syphilis is ulcerating under the crusts, which are black and bloody. There is a peculiar and highly offensive odor present in syphilis.

To check promptly the progress of the disease internal treatment will not suffice, but local applications to the nose and inunctions of mercury to the body are necessary. Apply inunctions of the oleate of mercury upon the thinner parts of the skin, varying in position. The local treatment is quite important. At the first visit of the patient the nasal cavity should be thoroughly cleared of the contained

NOTE.—The last line of the formula on page 125 should read: "Morphinæ sulph., gr. ij."

crusts, at least a half-hour being taken for this one task. Using a soft-rubber bulb syringe or a Birmingham douche, the crusts should be thoroughly soaked with Dobell's solution. When the crusts have become soft they may be removed with angular forceps. After all the large crusts have disappeared the small crusts, and any dried secretion or mucus, may be removed with a cotton applicator. Then a careful search for any denuded or loosened bone should be made. After cocainizing, probe the nose and detach and extract any loosened bone. If the sequestrum is too large to remove it may be crushed with forceps. After the above treatment the inflammation will rapidly subside. Any remaining particles of pus are destroyed by hydrogen peroxide, upon a cotton applicator. Then make an application of silver nitrate 3 j to f ℥ j of water — the whole ulcerated area being attacked. Complete the dressing with insufflation with iodoform mixture as follows:

℞ Iodoformi,
Acid. tannici..... āā 3 ss.
Bismuth. subnit.,
Acaciæ powd..... āā 3 ij.
Morphinæ sulph..... gr. xx.
M.

The patient should be directed to syringe the nose constantly— twenty to thirty times daily — with Dobell's solution, and should be treated daily for several days as above if a permanent cure is expected.

CONSERVATISM IN SURGERY.*

BY MAURICE H. RICHARDSON, M.D., BOSTON, MASS.

(*Continued from page 90.*)

Conservatism is appropriate in the selection of cases suitable for operation. When the cases have been selected, the disease must be attacked with the utmost thoroughness, or the operation had better be withheld entirely.

Conservatism in the field of abdominal emergencies may, from its very definition, seem absurd; to do nothing in the face of impending death is a *reductio ad absurdum*. Yet there is much to be said on both sides of the question when we consider the best treatment of abdominal hemorrhage, of peritoneal infections, or, in fact, those abdominal emergencies which permit cure by any surgical means.

*An address delivered (by invitation) before the Wisconsin State Medical Society, 1900.

Abdominal Hemorrhage.—Are there any circumstances under which palliation is justifiable? Can we hold ourselves blameless, when the diagnosis of hemorrhage is clear, if we do not at once intervene? The answer to this seems clear under some circumstances and obscure under others. One is perhaps too much influenced in his opinion by recent experiences, forgetting older ones. My present views are undoubtedly strongly influenced by two recent cases.

Within a few weeks a young man was brought to the Massachusetts General Hospital suffering from the results of a blow upon the abdomen from a fall. He was pulseless—in a state of extreme shock. The assistant surgeon, Dr. Mumford, found the abdomen distended with blood from probable fracture of the liver. No operation seemed justifiable. The patient's veins were filled with salt solution; he was warmed, stimulated, and nursed to life. The next day, and for some days afterward, he improved. Vomiting and distention then supervened. We all thought that an extravasation and a general peritonitis had followed sloughing of bruised intestine. Operation, as a last resort, was proposed. I found a small piece of necrosed liver, which had been broken off the great lobe of that organ by the fall. The abdomen was full of old blood. Several areas on the distended small intestine were black, as if spattered with ink—a very unfavorable sign. I removed the piece of liver, which was held by a small band of capsule, and sponged out the blood. Dr. Mumford closed in several of the black areas. The patient, as was expected, died in a day or two.

A week later there was brought to the hospital a young man recently run over by a heavily loaded wagon. He was in a state of shock, from which, however, he soon rallied. I found him distended, rigid, and vomiting. There was dulness in the flanks, with other signs of hemorrhage. Some of the house staff were opposed to operation on the ground that it was hopeless; others favored it. I operated at once, because it seemed to me that if ever an exploration is demanded it is when there are symptoms of hemorrhage and peritonitis after the commonest cause of ruptured intestine. I found the abdomen tensely distended with blood. There was no fracture of the liver, and no rupture of the intestine. Furthermore, as long a search as I dared to make revealed no source of the hemorrhage, which, I may add, had evidently ceased. The relief following the apparently ineffective operation was immediate and permanent.

The inference in these cases is that exploration would probably have saved the first case; that it may have been the saving element in the second; that in doubtful cases it is best to explore.

The commonest cause of hemorrhage—ruptured extra-uterine

pregnancy—sometimes produces a depth of systemic depression out of all proportion to the amount of blood lost. The attending physician himself often sees the case for the first time when the patient is moribund. What is to be done—not in those cases of slow bleeding in which there is time to prepare the patient for operation, but in those cases in which the patient is at the last gasp, when she has bled until she is restless, pulseless, sightless—when death is a matter of a few brief moments?

When I first considered the question, after an experience of twenty or thirty cases, I was convinced that when in doubt the surgeon should follow the conservative course; that the patient's life was in the balance; and that the slightest additional shock, even of simple etherization, would turn the scale against her. With this conviction strong upon me, I saw several patients gasp and die, in spite of everything that I could do. Then came a number of cases of hemorrhage in which Dr. Jones, my first assistant, used intravenous salines with such success that I determined to try them in the abdominal hemorrhages of extra-uterine pregnancy. We found it possible to bring the pulse back to easy detection, to open the abdomen and to check the hemorrhage, even in the apparently moribund. Conservatism in abdominal hemorrhage is a thing of the past with me, unless I am convinced that the bleeding has ceased.

So in postoperative hemorrhages, the most terrible of all emergencies. Fortunately these accidents are discovered early if intelligent nurses are in attendance—so conspicuous and unmistakable are the signs of bleeding. I recall one case in which the patient was brought to death's door by the slipping of a silk ligature from the pedicle of a small ovarian tumor. The pulse was brought up by intravenous injection by Dr. Jones, and an extremely rapid operation saved the patient.

As a rule, then, hemorrhages of extra-uterine and postoperative origin require operation, however bad the patient's condition, provided an intravenous injection of two or three pints of warm salt solution brings the pulse up enough to be felt.

In objection to this procedure it is said that the history of many extra-uterine pregnancies shows that few come to operation without one or two previous attacks of bleeding. If the patient has recovered from these attacks, she may from the present one—therefore wait. It is doubtless true that there are minute ruptures, trivial hemorrhages, attacks in which pain is the only symptom noticed, the hemorrhage being too slight to be detected; yet in all cases pain means rupture of the sac and bleeding from it. If the patient recovers from the attack, so much the better for her; the next one, however, may be fatal, so rapid and extensive may be the extravasation.

In the former case the symptoms are trivial and may disappear in a short time; in the latter they are so conspicuous and alarming that the physician will surely be called. If, influenced by previous recoveries from slight attacks, the surgeon waits in the severe ones, he will too often meet with disaster.

The best treatment of appendicitis excites a wider interest, perhaps, than that of any other abdominal lesion, not only because of the great frequency of appendicitis, but because there is such a diversity of views concerning it. The layman, even, has his opinions upon the subject, and often ventilates them in lay journals freely and confidently. The layman who speaks slightingly of appendicitis, and the physician who dismisses the subject with a panacea, are probably responsible for many disasters, for the one excites popular incredulity as to the very existence of the disease, and the other a false confidence as to its curability.

My remarks upon appendicitis are based upon a personal experience of about a thousand cases of my own, besides a very large number treated at the Massachusetts General Hospital by my associates. From this experience I am convinced of the truth of several things:

1. That appendicitis is a very common disease.

2. That in many cases the first symptoms are caused by a perforation of the appendix, just as in extra-uterine pregnancy the initial pain is caused by the rupture of the fetal sac. The material escaping from the appendix may vary in amount and in virulence, according to the size of the hole, the patency of the appendix, the liquidity of the intestinal contents, and the nature of the microorganism.

3. That, therefore, a general peritoneal infection may be under full headway almost immediately after the very first symptom—an infection as surely fatal without immediate relief as a perforation of the stomach or of the bowel. That all cases of perforative appendicitis are not in this category is owing to the fact that the contents of the appendix are naturally limited in amount; that unless the bowel freely communicates with the appendix, and, through the perforation, with the peritoneal cavity—or unless the cæcum itself gives way through sharing in the gangrenous process—there can be no rapid and widespread overwhelming of the peritoneal cavity. Were it not that the gangrenous process in the appendix results from an engorgement and thickening of its adenoid tissues, by which its lumen is practically closed—were it not for this efficient barrier, all cases of appendicitis would present those formidable symptoms that prevail in intestinal perforations. As a matter of fact, the overwhelming infection of the so-called fulminating case is caused by a gangrene so near the cæcum that escape is given to the abundant contents of the cæcum rather than to those of the appendix.

4. That this, the very moment of initial infection, is the time for operation. When I see a patient at this early hour, I for one cannot take the responsibility of advising delay. Intervention will often disclose a state of things truly formidable—and that, too, when the symptoms are comparatively slight. Unfortunately we rarely see the patient at this time.

5. That when the surgeon sees for the first time a patient whose symptoms, after full development, are improving, or even at a standstill, the wisest course is delay, in the hope of an operation in the period of health—the so-called interval operation. I fully believe that this is a wise conservatism; that many a patient is lost by operation at this time. The stage of the disease is too advanced for a simple appendectomy and closure of the wound; the appendix and the localized peritonitis are well isolated by adhesions; the first steps in nature's cure are successfully taken. If the surgeon intervenes, he interferes with nature; he substitutes his own art, which, however better it must be than nature's when time and circumstance favor it, is often meddlesome and disastrous in the extreme. In a word, he tears down the barriers which nature has raised, and the life of the patient depends upon those which his art has substituted. Let him rather at this time be ready with his resources to come to nature's aid when the pressure is too great for safety, or when the patient's strength shows evidence of yielding—when the local signs increase in severity, and when the constitutional depression deepens.

6. That the appendix should not be removed unless it is as safe to remove as to leave it. This is a question of infecting the general peritoneal cavity, and applies only to cases of walled-off abscess. The only objection to removing the appendix in such conditions is the danger of converting a localized into a general peritonitis.

I am fully convinced, therefore, that in the treatment of acute appendicitis the only place for radicalism is in the very beginning. Could every case be taken at the time of the initial pain, practically every patient would recover; if taken when the symptoms are fully developed, some have a better chance with operation, and some without.

When we consider questions of prophylaxis in appendicitis, we are brought, by such experience as I have had, to the most radical views. When it was first proposed to take out an offending appendix in the period of remission I was opposed to it, believing that the danger of removal exceeded the danger of a possible recurrence. I was influenced at this time by the thought of the many fatal operations in the acute stage, not fully realizing that those fatalities were the result rather of the disease than of the operation. Since the time of my

first operation (1893) I have removed the appendix when the patient has been in as nearly the state of perfect health as possible. This operation I have done some three hundred times. In this number have been included all kinds of cases—many of them requiring drainage, but all of them being in a state of chronicity. There has been no fatal case among them. After operations, in the acute stage—though guided as truly as opportunities and experience could guide me—I have lost about twenty per cent of the cases. The fatalities, I must insist, however, have been augmented by taking in every case even the most desperate chances—opening the abdomen, for instance, under cocaine in the cases too desperate for ether; draining and irrigating the advanced general infection; in a word, refusing no patient the chance of recovery. This accounts for the high death-rate.

With such an experience, can any other course be taken in the treatment of an offending appendix, even mildly offending, except removal? I should place myself among the radical of radicals when it comes to the question of removing a diseased appendix. I would do it in every case, unless the condition of other organs forbade. The only question to consider is the best time. When it is possible to choose that time, there is every reason for operation and none against it. Unlike the ovary, the appendix is a useless organ; in its removal there is everything to gain, and nothing to lose. I could add here hundreds of experiences, all of them sad and many of them bitter, to prove the truth of my conclusions—experiences in cases in which death has followed the disregarding of the warning given.

In searching for the light in the treatment of the diseases of the gall-bladder, we are just beginning to find our bearings—we are learning what a menace gall-stones are to life and health. We no longer dismiss the subject of gall-stones with the remark that a large percentage of gall-bladders, especially in old women, are found, post mortem, to contain gall-stones. On the contrary, we realize that gall-stones are so common that they menace life and health in many ways, that their acute manifestations are often accompanied by the most unbearable pain, and their chronic manifestations by distress and suffering, which in too many cases find relief only in death itself.

It is true that in many cases gall-stones have never caused symptoms; but does this fact insure immunity for the patient who has them? Does it follow that gall-stones discovered at the post-mortem table have never done harm?

It is certainly extraordinary, it must be admitted, what size a gall-stone may attain, and what harm it may do, without giving, in the process of formation, the least sign of its presence. I have seen a fatal obstruction of the small intestine by a single gall-stone which

had previously never given the patient the least pain. I have removed stones of great size from an infected bladder when there had never been a single attack of biliary colic.

Gall-stones may, in certain cases, never cause a moment's annoyance, while they are, through years of ceaseless and insidious pressure, bringing the patient to a state in which, without warning, the whole abdomen may be flooded with bile.

I have seen many, if not all, of the possible complications of gall-stones—from the simple, if painful, transitory biliary colic, to the permanent jaundice of impacted stone. Time and again I have seen patients succumb to extravasations from the biliary passages through the ulceration of impacted stones; I have found gall-bladders dilated, contracted, obliterated, malignant; thickened, thinned, gangrenous; containing one or two large stones, or hundreds of small ones; gall-bladders infected with the colon bacillus, the bacillus typhosus, and with other undescribed microorganisms. I have seen stones impacted in the cystic, the hepatic, the common duct; outside the gall-bladder in the general peritoneal cavity; impacted in the intestine, in the abdominal wall, escaping from abdominal abscesses and sinuses. I have seen adhesions of the gall-bladder to stomach, liver, duodenum, and colon—flexures of pylorus and kinks of duodenum.

Gall-stones can and do kill us; they torture us; they ruin health and happiness; even while they remain apparently innocuous in the gall-bladder, they stand ready to destroy health and life. When they threaten health and life by actual attack, we repel the attack, we remove them—but at a time when danger is great. Why not defend ourselves when we can do so with comparative safety? Why not attack them before they are so strongly entrenched that they cannot be dislodged without great loss?

What shall be said as to conservatism in the treatment of gall-stones?

The larger a man's experience in any line of medicine or surgery, the more emphasis he places on prophylaxis. Could he, by preventive medicine, rid mankind of the infectious diseases, of tumors, of appendicitis, of gall-stones, of peritonitis, he would accomplish his greatest ambition. But, though preventive medicine has shown great results in the prophylaxis of germ diseases, no results have thus far been obtained in the prevention of tumors, of appendicitis, or of gall-stones. The most experienced in the treatment of them all are continually urging one thing, the chief thing and the most important—early recognition and early operation.

How long are we to cry out for the earliest possible recognition of cancer, of appendicitis, and of other abdominal emergencies? How

many more hundreds of operations, successful because they are early, must be presented as arguments for timely intervention? But, in gall-stones, it is said if they are not preventable, they can be removed by medical treatment, by a trip to Carlsbad, by olive oil, and by what not. I have removed many stones that have withstood years of pilgrimages to Carlsbad. I do not believe that gall-stones can be removed by any but surgical means; the very appearance of gall-stones forbids. In many gall-stones we see evidence of the deposits of successive years — deposits which differ in color, in texture, and friability. Few cases present themselves to the surgeon without having had years of previous medical treatment.

The mortality of operations for gall-stones in the Massachusetts General Hospital has been as high as twenty per cent. I have lost some thirteen or fourteen patients in a total of about a hundred. All of these deaths have been in cases of long duration—of impaction and jaundice. The mortality has been in direct ratio to the years of delay, to the duration of the lesion, and to the local and constitutional changes wrought by the gall-stones themselves. All early operations have been perfectly successful. The patients had been treated—and very properly, as far as our knowledge then went—with conservatism. But we have learned by the multiplicity of observations, and particularly by the earlier operations, that the mortality in gall-stones, like the mortality in appendicitis, is due to causes other than the operation of removal, which in itself is practically without mortality. Added to the dangers of simple cholecystotomy may be those of a changed gall-bladder, an incised cystic duct, an incised hepatic or common duct, a prolonged jaundice, a profound cachexia, an acute cholecystitis, an extravasation of bile, a general peritonitis, and, too often, a beginning carcinoma.

We are now brought to the position in which, I fully believe, it is our duty to remove gall-stones as soon as they begin to offend — indeed, as soon as it is reasonably certain that they exist in considerable numbers in the gall-bladder. All observers testify that simple cholecystotomy is practically without risk. I fully believe that the risk is not greater than that of the passage of a single gall-stone from the gall-bladder to the duodenum.

Unless the condition of other organs forbids, or the general condition from age, cachexia, and the like is unfavorable, the time has come for the early and radical treatment of gall-stones. Conservatism may rule when gall-stones have caused serious changes. In acute cholecystitis it may be a question whether to operate or to wait for the subsidence of acute symptoms; whether or not to wait for the escape of a stone from the common duct into the duodenum; whether

to operate at all when the risks of intervention about balance those of delay. I am sure, however, that the greatest good to the greatest number will follow the removal of gall stones when they are confined to the gall-bladder.

My remarks have, I fear, already far exceeded the limits of your interest. I cannot leave my subject, however, without a word upon the conservatism of the pelvic viscera of woman, particularly the ovaries.

The ovary, unlike the appendix, is a useful organ, upon which depends, no one knows how much, the health of the woman. In the *furor operandi* of ten years ago ovaries were sacrificed upon the most trivial pretext, whether enlarged, contracted, congested, anemic, cystic, inflamed, adherent, prolapsed — out they had to come, and for any symptom, obscure and remote though it was.

It has always seemed to me that removal of an ovary was to be reserved for the last, as much as amputation of a leg; that it was to be regarded as an admission of the failure of all treatment, medical as well as surgical. The surgery of the ovary and the uterus is pre-eminently the field of the conservative surgeon. The last thing to do is to remove the organ, unless there is malignancy, and then, of course, it is the first.

An argument of real weight, however, appeals to me in favor of early removal of small ovarian cysts—by "small" I mean no larger than an English walnut. That argument is the occasional occurrence of disseminated cancer of the abdomen, after the removal of an ovarian tumor apparently benign. The tendency of ovaries to become malignant is so strong that I believe the least suspicion of malignancy should demand extirpation.

The conservative operations upon uterus, tubes, ovaries, toward which there is now so wide-spread a tendency, cannot but excite in the minds of all experienced surgeons feelings of warm approbation.

A word in closing which should have been said, perhaps, in the beginning of my paper. Who is the physician and who the surgeon with whose proposed performance these remarks deal? Is he the general practitioner in a small community, who sees a gall-stone case once a year and an appendix twice? If he is, let him follow in every case the most conservative course possible, for to the dangers of operation will be added in his hands those of inexperience, and, too often, those of extreme radicalism. Is he the physician of large experience in medical cases, but small in surgical, who wishes now and then to perform a surgical operation? He, too, had better follow the line of his greatest experience and leave the patient to nature and to palliation. The class of surgery upon which the radical treatment of doubtful

cases must rely is the class which affords the highest order of skill, of experience, and of aseptic technique. The dangers in many of the diseases considered are not great if the patient is left to medical treatment. They will be exceeded, perhaps, by those of a clumsy dissection and a faulty asepsis.

If the operator, by long experience, has brought himself to a perfection of judgment and of operative skill that reduces to a minimum the dangers incident to all surgical procedures, then only is radicalism, as defined and illustrated in the foregoing remarks, to be justified. To all others extreme conservatism should be the watchword.

224 BEACON STREET.

THE USE OF COCAINE IN SPINAL PUNCTURE.

BY M. SHELLENBURG, M.D., PHILADELPHIA, PA.

Cocaine, when it is brought in contact with mucous membranes, passes through them promptly, and for this reason the concentrated action of the drug is obtained at once. On this account a larger dose should never be injected hypodermically than would be given by internal administration. In the nose and throat, in the eye, in the mouth, and in the urethra, cocaine is used by direct application, generally in a two- to four-per-cent solution. The first thing noticed when it is applied in this manner will be a blanching or pallor of the part, due to the constriction of the small blood-vessels, and this is followed by a dilatation and a congestion, the latter sometimes being so marked as to interfere with the operation. The anesthesia thus produced will last for from ten to twenty minutes, but the effect produced will continue longer than this if the part is constricted by a ligature before the cocaine is injected. It is always best to apply a ligature to the part where it is possible, as in the removal of a finger or toe, or in the lancing of a felon. Removal of the cocaine by absorption into the part brings about a return of sensation.

To the Germans belongs the credit of discovering a method of local anesthesia by means of which the least possible amount of cocaine was used. There was employed only a feeble, watery solution of cocaine, to which had been added a little morphine, and by injecting this drop by drop entirely around the part to be removed—a tumor, for example—the growth could be excised without pain to the individual. The effect of this method was later found to be due to the water in the solution, and to this fact is due the discovery of "infiltration anesthesia." This method is used, with good results in the majority of

cases, by not a few dentists who practice "painless extraction," the anesthesia being obtained by the injection of sterile water about the part, causing a lessening of function and anesthesia.

Of late a new method of using cocaine for the purpose of anesthesia has come to the front, namely, that of the injection of a solution of cocaine into the spinal canal. This injection is made not into the spinal cord, as many suppose—for a surgeon could be guilty of no greater carelessness than that of unnecessary interference with the spinal cord of a living being—but into the spinal canal in such a position that the solution would come into contact with the nerves of the cauda equina. Fully two thirds of these operations have resulted in failure, because the surgeon never got the needle of his hypodermic syringe into the spinal canal, or if he did, he allowed his needle to go through and beyond it. The injection is made between the fourth and fifth lumbar vertebræ, this point being ascertained by a line drawn across the patient's back joining the two iliac crests. This line will be found to pass over a point in the spinal column which indicates the junction of these two vertebræ. The first thing to do in employing this method of anesthesia is to insert a platinum needle having a short, sharp bevel into the spinal canal at this point, the syringe not being attached until you obtain spinal fluid, when the syringe can be screwed on and the cocaine solution injected. By this means the lower half of the body can be anesthetized, and it is claimed that a woman can undergo labor without a pain. Those surgeons who have used this method have injected large doses of the drug, even as high as six grains, and as a consequence the patients have suffered from vomiting, headache, and all the symptoms of cocaine poisoning.

Absolute asepsis is necessary for the successful performance of the anesthetization by this means, and should the method become common, it is not hard to predict that many bad results would follow from infection of the cauda equina under the management of careless surgeons.

Two points which are very much against the universal usage of this method are that it does not shut out all the horrors of an operation to the patient, and that the anesthesia is not under the control of the surgeon. No matter what advantages the injection of a solution of cocaine into the spinal canal has, it is dangerous, and will never replace ether and chloroform.

Governor Odell, of New York, is being urged not to interfere with the important research work that is being carried on at the Pathological Institute of the New York State hospitals.

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

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EDITORIAL ARTICLES.

THE WOMAN WITH THE HATCHET.

The strange outbursts of political and religious zeal which occasionally sweep over a country have associated with them certain phenomena possessing an import more or less pathological. Recently out of Kansas, the home of false christs and crazy messiahs, has emerged the strange figure of a woman with a hatchet, who assumes a mission of destruction, and by a return to the ancient rule of force attempts to insure the fulfilment of an enactment against drinking-saloons, which the recognized machinery of the law has seemed powerless to effect. This well-meaning and apparently estimable woman may possess undoubted qualifications for leadership. The term crank is often injudiciously bestowed upon any and every enthusiast, and it may be improperly applied to this woman, but a suspicion of unbalanced intellect and emotion cannot very well be denied to one who ordinarily employs her method of persuasion. They at least are reversionary in type, and belong to a realm of psychic feeling mankind has gradually but most happily outgrown. They are at root the methods of the ape and tiger. It will perhaps take long to teach us that nothing great is ever accomplished by force, but time will at last lead us to realize the truth.

There are always elements of atavism or of reversion in type that would appear to enter largely into the make-up of modern messiahs and apostles. The hatchet in this instance is probably not the weapon which would best serve Mrs. Nation's purpose, but it has about it a prestige which is distinctly historic and which savors of the first president of the Republic. If Mrs. Nation were to enter a city on horseback her followers would doubtless select a white or black one in unconscious revivification of the memories of the triumphs of Mahomet or Darius, and if her movement were to take on more purely religious

coloring she might even be found in more pointed simulation entering her Jerusalem on an ass.

Another pathological incident may be noted in the fact that with whatever righteousness or wisdom the inception of a crusade may be characterized, the leader nearly always tends to become more or less vitiated by abundant glorification. Personal vanity then assumes egregious proportions, and illusions of grandeur gradually but inevitably abate his prophetic instincts and prostrate his sagacity.

The principle of contagion by which many a delusion is propagated attaches itself to the exponents of new religious faiths. It always appears to be reflected in the subsequent operations of the ideas emanating from these unbalanced characters. Emotion once rendered vitally dynamic seeks to perpetuate itself in like forms of activity. The Nationites who wreck "joints" have been followed by Dobbieites who destroy drug stores. There is something pathological in all this, though it has hardly been accounted for by any rational explanation of the facts.

In the conduct of Mrs. Nation and her followers it also remains to be considered how much of this energy is due to the gratification of that primal instinct allied to the love of killing for its own sake—the delight in destructiveness, the reversionary impulse which occasionally manifests itself as a warning that the emotions of the stone age die hard, and that any impairment of self-centered control may cast us back into the darkness from which we have but so lately emerged.

EDITORIAL NOTES.

An Illustrious Example.

Among the many encomiums bestowed upon the dead Victoria, it is recalled how much she did for painless obstetrics by submitting herself to the use of chloroform at a time when prejudice and superstition were arrayed against its use. When the Duke of Albany was born, anesthesia was used for the first time in a royal labor, and thus the stamp and approval of royalty was placed upon a proceeding which soon became universally fashionable. Another service the Queen rendered to medicine was by always having her professional entourage composed of men of high character and scientific attainment. Faith-cure, Christian science, or osteopathy never could have gained recognition of any kind from a woman of such shrewd common sense.

ITEMS AND NOTES.

A PAN-HELLENIC CONGRESS will be held at Athens on May 13 and 14 next.

DR. NICHOLAS SENN has returned from his vacation trip to Central America.

A SEVERE epidemic of smallpox is reported from Huntsville, Alabama.

DIPHTHERIA has broken out in the City and County Hospital, San Francisco.

PROFESSOR BEHRING has recently been the recipient of a title of nobility.

THE present epidemic of grippe has raised the death-rate throughout the country.

IN Vienna the appointment of medical inspectors for schools is being considered.

THE University of Munich has sent Dr. Hahn to Egypt and India to study the plague.

DOBBS FERRY, New York, is to have a new hospital, the erection of which will be begun at once.

IT is proposed to lengthen the time for medical study in Germany from four and a half to five years.

FIVE distinct measures have been introduced into the legislature of Michigan against the use of cigarettes.

THE *British Journal of Tropical Medicine* will now be issued twice a month, instead of once, as heretofore.

THE London hospitals cared for 1300 persons who were injured in the crowd attending the funeral of the Queen.

THERE is at present a great overcrowding in all the departments of the Manhattan State Hospital for the Insane.

THE directors of the Mothers' and Babies' Hospital of New York have decided to close that institution after May 1.

THE first woman to take the degree of medicine in Peru is Senorita Laura Rodriguez, who received her diploma in 1900.

THE antivivisection bill will not be taken up in the present session of Congress because of the pressure of other business.

SIR WILLIAM MACCORMAC has received from the President of France the cross of the commander of the Legion of Honor.

ACCORDING to the report of the New York State Board of Health, there were, during the year 1900, 6647 more deaths than in the previous year.

THERE exists in London at the present time a recrudescence of influenza presenting the distinctive feature of swollen, tender submaxillary glands.

THE license of a St. Paul physician has been taken away by the State Board of Medical Examiners for his violation of the code of ethics by advertising.

TWO bills have recently been introduced into the New York legislature—one to regulate the practice of midwifery in New York City, and the other to restrict sweat-shop work.

THE fourth Italian Pediatric Congress, promoted by the Societa Italiana di Pediatria, will be held at Florence from the 15th to the 20th of October next. The president is Dr. Francesco Fede, of Naples, and the secretary-general Professor Luigi Concetti, of Rome.

ON January 30 there were discovered in the city of New York, in the district known as "Little Italy," nineteen cases of smallpox. The Italians whose families had been attacked had concealed their sick in order that they might not be sent to the Contagious Diseases Hospital.

ALTHOUGH General Chaffee was at first sharply criticized by the commandants of the soldiery of the other nations for quartering the United States troops in tents during the winter in China, there have been fewer sick men in the American commands than in those of any of the other nations.

FORMAL charges of incompetency, brutality, negligence, and imperfect diagnosis of injuries have been preferred against the house staff of the Fitch Accident Hospital, Buffalo, and are now being investigated by the board of consulting and attending physicians and the hospital committee of the Charity Organization Society.

An expedition is being sent out by Portugal to Angola, which is the general name for the Portuguese possessions in Lower Guinea, West Africa, to study the sleeping sickness there. It is composed of Drs. Annibal Bettencourt, Ayres Kopke, and Gomes Rezende, Jr. The expedition will probably start about the end of February.

The trustees of the Samuel D. Gross prize, to be given for the best original essay not exceeding 150 printed pages illustrative of some subject in surgical pathology or surgical practice, founded upon original investigations, candidacy being restricted to American citizens, announce that no essay worthy of the prize was received up to January 1, 1901.

A bill has been introduced in the House of Representatives directing the general government, through the Secretary of the Interior, to secure title to the cliff-dwellers' region of New Mexico for park and scientific purposes; and one in the Senate, appropriating $5,000,000 for the purchase of land in the Appalachian Mountains for a national forest reserve.

"Plague prevails in every part of India," says the Bombay correspondent of the *London Daily Express*, "except the central provinces. It is particularly severe in Bengal, where there is a weekly mortality of 2500. In Bombay the deaths reached ninety-four per cent. The scourge is intensified by a lack of an adequate medical staff, the doctors being chiefly occupied in famine districts."

It is announced that the next triennial prize of $1500, under the will of the late Sir Astley F. Cooper, will be awarded to the author of the best treatise on "The Pathology of Carcinoma and the Distribution and Frequency of the Secondary Deposits Corresponding to the Various Primary Growths." The competition is open to the world. Essays must be sent to Guy's Hospital on or before January 1, 1904.

There are at present four women holding the important post of assistant in Swiss universities. At Bern, Fraulein Dr. Siglinde Stier is assistant in the psychiatric clinic. Fraulein Dr. Rachel Zipkin is second assistant in the Anatomical Institute, Zurich; Fraulein Dr. Kworostansky is fourth assistant in the obstetrical and gynecological clinic; and Fraulein Dr. Fitschen second assistant in the psychiatric clinic, of the same University.

The German Congress für Innere Medicin will hold its nineteenth annual meeting in Berlin this year from April 16 to 19, under the presidency of Professor Senator. The subjects proposed for discussion

are "Cardiac Remedies and Vasomotor Remedies" (to be introduced by Professors Gottlieb of Heidelberg and Sahli of Bern); "Inflammation of the Spinal Cord" (to be introduced by Professors von Leyden of Berlin and Redlich of Vienna).

Dr. Francis Auersperg, of 326 West Seventy-eighth Street, New York, says the *Sun*, has filed a petition in bankruptcy with liabilities of $290,729, and no available assets. Nearly all the debts were contracted in Vienna, some in Berlin and Paris, and $1100 in New York. Dr. Auersperg formerly lived in Vienna, and all his property was turned over by the Austrian Bankruptcy Court to Dr. Ignatz Klopetz, of Vienna, on February 29, 1898, and was divided among the creditors.

Medical opinion in France has long been unanimous in holding that absinthe and certain other fabricated articles of drink used under the general name of "aperitifs" or digestives are dangerous poisons when taken habitually. A law has recently been passed which permits the government to forbid the manufacture and sale of any such article recognized and declared to be dangerous by the Academy of Medicine, and in order that this shall not become a dead letter the Chamber, with only two dissentient voices, has recently passed a resolution inviting the government to request the academy to indicate those drinks which contain substances dangerous to the public health, so that their manufacture and sale may be prohibited.

The British Royal Commission appointed to investigate the validity of the charges brought by Mr. Burdett Coutts and others against the management of the hospital in South Africa has, says the *Medical Record*, just completed its work. The findings are contained in a voluminous report, the gist of which is that, taking the campaign as a whole, it cannot be truthfully asserted that the medical or hospital arrangements broke down. The report declares that nothing in the nature of a scandal has occurred in regard to the care of the sick and wounded, and that there has been no general wide-spread neglect. Witnesses who had experience in other wars were almost unanimous in the opinion that when everything had been taken into consideration, the sick and wounded had never been so well tended in any other campaign.

NEW PUBLICATIONS.

INTRODUCTION TO THE STUDY OF MEDICINE.

There is manifestly good reason why Professor Roger's work should have been translated into the English language. The author presents his readers with a view of the vast horizon of the science of medicine. After having explained why an individual becomes sick, he has considered the morbific causes which tend to modify the unstable state of health. Two hundred pages are devoted to the consideration of the examination of the sick, and the author hopes he has succeeded in showing that it is possible to make a diagnosis and prognosis by simple means within the reach of all. The work is a most comprehensive review of the general field of medicine. It is calculated to inspire its reader not only with the magnificent range and scope of medicine as a science, but also with the possibilities of medicine as an applied art. Dr. Roger's scholarly book will be appreciated by all lovers of medical literature. The work preeminently belongs to literature.

Introduction to the Study of Medicine. By G. H. Roger, Professor Extraordinary in the Faculty of Medicine of Paris, etc. Authorized Translation by M. S. Gabriel, M.D With Additions by the Author. New York: D. Appleton & Co., 1901.

PHYSICAL DIAGNOSIS IN OBSTETRICS.

The improvement in the practical art of obstetrics that has followed the introduction of abdominal palpation and pelvimetry, and the establishment of complete diagnosis before labor, is amply recorded in this work upon physical diagnosis. The student who peruses this book with a view to informing himself on the best and most modern obstetrical method, will find much from which he can derive profit. The close and careful method of keeping a history, the accurate accumulation of physical and clinical data, and the necessity for prevision of all possible eventualities in a case, will be brought home to him in a forcible way. The book is a valuable one to student and practitioner.

Physical Diagnosis in Obstetrics. A Guide in Antepartum, Partum, and Postpartum Examinations for the Use of Physicians and Undergraduates. By Edward A. Ayers, M.D., Professor of Obstetrics in the New York Polyclinic, etc. With Illustrations. New York: E. B. Treat & Co., 1901.

ABRAMS ON THE HEART.

The author discusses the subject of heart disease from a practical standpoint. He describes the most noteworthy lesions of the heart, and enumerates his own methods of diagnosis, many of which appear to be quite original. The treatment of these disorders has not been neglected, and the volume is a very practical little manual of the subject.

Abrams on the Heart. Diseases of the Heart; Their Diagnosis and Treatment. By Albert Abrams, A.M., M.D., San Francisco, Consulting Physician for Diseases of the Chest, Mt. Zion Hospital and the French Hospital. Illustrated. Pages 172; Price, $1.00, net.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

The Hemorrhagic Diathesis in Typhoid Fever and its Relationship to Purpuric Conditions in General.

A. G. Nicholls and G. E. Learmonth (*Lancet*, Feb. 2, 1901) say that from a study of hemorrhagic typhoid fever and its relationship to purpuric conditions in general some suggestive ideas may be derived. On the whole it seems best to regard purpura hemorrhagica not as a distinct disease entity, but as merely a train of symptoms. Litten would restrict the term to the so-called "idiopathic purpuras," Werlhof's disease, Schonlein's disease, purpura simplex, etc., and would deny it to that form met with in variola, typhoid fever, pernicious anemia, leukemia, sepsis, snake-bite, and some others. This, however, seems to be too narrow a view. The trend of modern pathological research, far from accentuating the divisions of the earlier clinicians, tends to show that the processes at work in all these different conditions are capable of unification. Most cases come under the head of "infections."

In the light of our present knowledge it would be better to speak first of an "essential" purpura hemorrhagica, including under this term morbus maculosus, morbus Werlhofii, purpura simplex, peliosis rheumatica, and purpura urticans. Whether scurvy (purpura scorbutica) should be included in this class is perhaps doubtful, since "essential" purpura is a sporadic disease, while scurvy is apt to be epidemic and endemic. Some observers, however, would place scurvy with the others in the "infective" category. Babes particularly has described a bacillus which he thinks is the cause, but other observers have obtained negative results. Hemophilia certainly should not be included in the first group, since it is characterized by family and hereditary peculiarities. It might be termed a "normal" condition for certain individuals, and is not to be regarded as a true pathological state, since it is a permanent and not an incidental or transient condition.

The second group might be termed "symptomatic purpura," and would include all those cases which are met with in the course of the infective fevers, such as typhoid fever, variola, measles, scarlet fever, pest, yellow fever, sepsis, acute yellow atrophy, icterus gravis, etc.

A third group might be termed "cachectic," including forms found in pernicious anemia, leukemia, carcinoma, Bright's disease, etc.

A fourth group is the toxic purpuras, such as are met with in certain forms of poisoning — snake-bite, phosphorus, copaiba, antipyrin, etc.

A fifth form is that found in disseminated sarcomatosis, to which attention has been called by Martin and Hamilton, where in one case which they studied there was actual sarcomatous invasion of the internal coat of the vessels, and in another emboli of sarcoma cells. Whether these were the only factors or not seems to be doubtful.

The first two groups, and possibly the third, would fall under the head of "infectious" purpura.

The Removal of Pelvic Inflammatory Masses by the Abdomen After Bisection of the Uterus.

The advantages, according to H. A. Kelly (*Johns Hopkins Hospital Bulletin*, January, 1901), of a bisection and enucleation of the uterus as a preliminary to a complete enucleation of uterine tubes and ovaries for pelvic inflammatory and other diseases by the abdominal route are briefly recapitulated:

1. Additional space for handling adherent adnexæ, afforded by the removal of the uterus.

2. Great increase in facility for dealing with intestinal complications.

3. Better access by new avenues from below and in front to adherent lateral structures.

4. Elevation of structures to or above pelvic brim or even out into the abdomen, bringing them within easy reach of manipulation and dissection.

5. The same advantage in approaching both uterine vessels by cutting from cervix out toward the broad ligaments as is secured in approaching one of them in the continuous transverse incision method.

In general, the time of the operation is shortened; its steps are conducted with greater precision; surrounding structures are far less liable to be injured. In this way there are fewer troubles and sequelæ, and the mortality is lessened.

Surgical Hints.

The February number of the *International Journal of Surgery* contains the following hints:

In pelvic operations it is very necessary, if we are dealing with pus cases, which never stand anesthesia and shock at all well, to seek first for the most rapid mode of incision and drainage. In the majority of

cases the vaginal route will be the best for this purpose, even if a secondary operation may be required later.

In young children priapism is commonly due to vesical or preputial irritation. If the first, it usually denotes the presence of a calculus. If of preputial origin, it calls for retraction of the prepuce and thorough cleansing of the coronal sulcus, which may be filled with irritating secretions, or else, and most ordinarily, for circumcision.

When administering chloroform, the signs of impending danger are sudden dilatation of the pupil; shallow, sighing respiration; absence, rapidity, or irregularity of the pulse; and sudden paleness or lividity. Any one of these suffices, without the others, to show that danger is present, and that measures must immediately be taken to avert it.

Fistula *in ano*, in young children, may always be regarded of a tuberculous nature, and these patients must not be subjected to a cutting operation without first determining the fact that one has not to do with a spinal abscess that has found an outlet in the ischiorectal fossa. In these cases a soft probe penetrates very deeply, the child has a stiff or curved back, or shows symptoms of disease of the sacroiliac synchondrosis.

Congenital Hypertrophic Stenosis of the Pylorus.

J. H. Nicoll (*Pediatrics*, Feb. 1, 1901) says that this condition is the result of a congenital developmental aberration, possibly connected with the junction at the pylorus of two different processes of development.

That the condition is the result of a congenital hypertrophy of the muscular walls of the pylorus, secondary to antagonistic and incoordinated action of the muscles of the stomach, on the one hand, and the pylorus on the other, this incoordination being dependent on functional disorders of the gastric nervous system and ultimately resulting in "congenital gastric spasm."

That the condition is the result of spasmodic contraction arising from gastric (dyspeptic?) irritation after birth, and therefore not congenital.

That the condition is the result of chronic inflammatory processes.

Continuous Dilatation in Urethral Stricture.

Continuous dilatation is employed, says Dr. P. J. Freyer (*Clinical Journal*, Dec. 5, 1900), under the following conditions: (1) When we fail to make progress with "interrupted" dilatation. (2) When speedy relief is required owing to the occupation of the patient. (3)

When, owing to cystitis existing as a complication, continuous drainage through a catheter is required. (4) When, through age or debility, and particularly when disease of the kidneys is known or suspected to exist, an operation is inadmissible. (5) In tight strictures, and such as involve difficulty in introducing instruments, it will almost invariably be necessary to commence treatment by continuous dilatation, and when sufficient progress has been made to permit of the easy introduction of bougies, to continue the treatment by "interrupted" dilatation. (6) Continuous dilatation has almost invariably to be employed as a preliminary to internal urethrotomy. In most cases, as soon as we have dilated a stricture up to 16 or 17 F. (9 E.) by the "continuous" method, the treatment should be completed by the passage of large steel dilators by the "interrupted" method.

A Case of Hydatids Primarily Affecting the Lungs.

J. Cesar (*Lancet*, Dec. 29, 1900) reports a case of this rare condition. His reasons for considering it a primary hydatid of the lung are: (1) A liver of normal size; (2) the interpleural space was free, so it could not have originated in the pleura; (3) there was no discoverable communication between the abdominal and pleural cavities; (4) the growth was attached to the base of the lung. The temperature of the patient never rose above 100°; the expectoration was tinged with blood; there was intermittent and severe dyspnea, and a severe diarrhea. Patient gave a history of having drunk foul water. Post-mortem examination revealed a cyst containing about one and a half pints of a yellow gelatinous fluid, consisting partly of cysts varying in size, and at the end a little pus was found.

MEDICINE.

Cavite Fever.

B. L. Wright (*Philadelphia Medical Journal*, Feb. 9, 1901) reports a new and unclassified fever which exists in the Philippines. Almost invariably every fresh arrival at the Philippine Islands contracts the disease in two or three weeks after first taking up quarters on the peninsula.

Cavite fever is an acute infectious disease, characterized by an abrupt onset, high temperature, severe muscular pain, and extremely tender and painful eyeballs. The predisposing causes are high temperatures, low, damp localities, overcrowding, and possibly the close proximity of salt water. The exciting cause is supposed to be, and

undoubtedly is, microorganismal, although as yet nothing is known of its nature. Of the pathology we know nothing, as deaths from this disease have not been observed. The period of incubation is from two days to two weeks. The disease is of sudden onset, usually commencing with a slight chill; in a few hours the temperature rises to 104° or 105°, and may even reach 107°. The face is flushed, the eyes injected, extremely painful, and tender; the skin burning hot; the pulse full, strong, and rapid; the respiration accelerated, and the mind frequently delirious; the patient extremely prostrated. Nausea and vomiting are usually present, the bowels constipated, and the urine scanty and high-colored. Headache and muscular pain are severe; the latter is usually located in the muscles of the back and legs, but occasionally in those of the arms and shoulders. The temperature usually continues high for from three to five days, when it falls by crisis; the muscular pain may or may not cease with the fall of temperature. Relapses are not common, but second, third, and even more attacks are not unusual.

This disease is most apt to be confounded with dengue, but the absence of an afebrile period, and the rash, followed by a second febrile attack of definite duration, enable one to distinguish it from that disease. The absence of catarrhal symptoms separates it from catarrhus epidemicus.

The treatment should be as follows: Rest in bed, with a liquid diet. The bowels should be freely opened by a brisk saline purge, and kept regular by small and frequently repeated doses of calomel. Such drugs as antipyrin, phenacetine, or acetanilid, and small doses of quinine, should be administered.

Muscular Lesions and Tubercle.

Carcassone recently drew attention to muscular wasting as evidence of tubercle. Glin has taken up the question again (*British Medical Journal*, Feb. 2, 1901), verifying and extending the observations of the previous writer. Atrophy of the muscles in the immediate neighborhood of the tuberculous focus has of course been recognized for some time, more especially in connection with tuberculous joint affections; but the wasting of certain muscular groups in connection with pulmonary tubercle is a very interesting phenomenon, and one which has not been sufficiently recognized. This atrophy appears early, possibly before the patient's attention has been roused by any untoward symptoms. Wasting of the pectoralis major has indeed been remarked by Herard, Cornil, and Hanot, but atrophy of the supraspinatus and infraspinatus is also present; the trapezius wastes

considerably, but the deltoid frequently escapes; the biceps, on the other hand, is often atrophied. One very interesting point is that the serratus magnus is affected in cases of tuberculous pleurisy. If the intercostals become affected, it is generally late in the disease.

Similar groupings may be noticed in cases of tuberculous hip, in which the gluteus maximus and the triceps group are affected, while in the knee the triceps vasti and the rectus show wasting. Previous to atrophy muscles may show an early paresis, and it is even stated that a slight amount of contracture can be ascertained if watched for. This is probably the explanation of many cases of slight "stiffness" of the joint vaguely ascribed to rheumatism. In a case of the hip-joint the explanation offered is an attempt at immobilization. This of course could not apply to the shoulder group in cases of pulmonary tubercle. Muscular hyperesthesia has been frequently noticed. Pinching of the muscles or passive movements causes a diffuse pain. The pectoralis, trapezius, and scapular muscles are thus most frequently affected. Modifications of excitability have also been noticed; thus, several fibers seen in a muscle show irritable contraction on percussion. This of course is not pathognomonic of tubercle. Electric excitability is reduced, contraction is somewhat low, and there is a tendency to tetanization. These are in brief the changes presented by the muscles in cases of tubercle. They call for certain remedial measures, such as massage, active and passive movements, mild faradization, and galvanization.

Whey-cream Modifications in Infant Feeding.

F. W. White and M. Ladd (*Philadelphia Medical Journal*, Feb. 2, 1901), from their work in this line, have arrived at the following conclusions:

1. By the use of whey as a diluent of creams of various strengths they are able to modify cow's milk so that its proportions of caseinogen and whey proteids will closely correspond to the proportions present in human milk. They therefore render it much more digestible and suitable for infant feeding.

2. The best temperature for destroying the rennet enzyme in whey is 65.5° C. Whey or whey mixtures should not be heated above 69.3° C. in order to avoid the coagulation of the whey proteids. The amount of whey proteids in the whey obtained by these observers was one per cent, while in the analysis of the whole milk approximately three-fourths of the total proteid was caseinogen and one-fourth was whey proteids.

3. On the basis of these analyses they were able to obtain whey

cream mixtures, with a maximum of 0.90 per cent and a minimum of 0.25 per cent of whey proteids in combination with percentages of caseinogen varying from 0.25 to 1; of fats, from 1 to 4 per cent; of milk-sugar, from 4 to 7 per cent.

4. The emulsion of fat in whey, barley-water, gravity cream, and centrifugal cream mixtures was the same, both in its macroscopic and microscopic appearances. The combination of heat and transportation, such as sometimes occurs in hot weather, partially destroys the emulsion in all forms of modified milk, but this disturbance can be prevented by the simple precaution of keeping the milk cool during delivery.

5. Whey cream mixtures yield a much finer, less bulky, and more digestible coagulum than plain modified mixture with the same total proteids; the coagulum is equaled in fineness only by that of barley-water mixtures. The coagulum yielded by gravity cream mixtures and centrifugal cream mixtures is the same in character.

The Cocaine Habit.

Cocainism, says G. W. Norris (*Philadelphia Medical Journal*, Feb. 9, 1901), is the most insidious of all drug habits. The use of the drug being unaccompanied by disagreeable after-effects—headache, nausea, vomiting, etc., which are met with after the ingestion of opium or alcohol—the vice is readily and rapidly established.

Cocainism is occasionally acquired by the local use of the drug in diseases of the nose and throat, teeth, etc., but more often as a substitute for opium or alcohol.

Cocaine is eventually tolerated by the system in huge doses. (One case is recorded where sixty grains daily was consumed.)

A relatively large number of habitués are found in the medical and dental professions (it is said thirty per cent).

The continued indulgence in cocaine invariably, and usually soon, leads to marasmus, with mental, moral, and nervous degeneration.

The smallest fatal dose on record is one-third grain hypodermically.

While many cases of acute intoxication are being continually reported, there are relatively few fatal cases. The majority of such are the result of large doses injected into the urethra and bladder—*e.g.*, in two cases, five and six fluidrachms respectively of a five-per-cent solution into the urethra.

The amount of cocaine sold yearly is rapidly increasing, and its self-prescribed use among the laity and lower classes is becoming proportionately more frequent.

The Rational Treatment of Pulmonary Hemorrhage.

Wm. J. Robinson (*Merck's Archives*, January, 1901) in an article under this heading says that the important question is: What are we to do when called in to treat a case of hemorrhage from the lungs? The very first thing to do is to allay the anxiety of the patient and his friends and relatives. The next thing to do, if it has not been done already, is to loosen the clothing of the patient and to put him down in a semi-recumbent position. The semi-recumbent is preferable to the recumbent position, for the reason chiefly that it facilitates the expectoration of the exuded blood and mucus.

In regard to the medicinal treatment, for pulmonary hemorrhage there is no drug in the entire materia medica equal or even comparable to morphine, and a hypodermic injection of morphine should immediately be administered, as soon as the patient has been put in the proper position—$\frac{1}{4}$ grain of morphine sulphate combined with $\frac{1}{120}$ grain of atropine sulphate. The effect of the morphine in this condition is wonderful. It exceeds by far anything one would expect from knowledge of the drug's physiological effects only. Undoubtedly, besides exercising a beneficial effect on the turbulent heart and circulation, and on the respiratory movements of the lung, it does material good by allaying anxiety and diminishing cerebral activity. The usefulness of atropine, which acts as a stimulant to the respiratory center, has been disputed by some; but there can hardly be any doubt that slight stimulation, to overcome the depressing effect of morphine on the poorly working lungs, is desirable. The atropine has another beneficial effect: it relaxes the cutaneous vessels, increasing the amount of blood in them and thus diminishing the amount of blood in the lungs.

Pneumonia in the Obese.

Mallard (*Thèse de Paris*, 1900) points out that pneumonia in the obese never has the same severity of onset as ordinary cases. Pain in the side is usually constant, and may be very severe. Cough is a very troublesome symptom; the initial rigor, which is so characteristic and severe in ordinary cases, is in the obese replaced by several rigors not so severe and very similar to those met with in pleurisy; although the temperature is elevated it does not attain the same degree of elevation as in other cases. The disease is, as a matter of fact, extremely variable in different persons, and never follows the classical forms. Physical signs even are quite different, and sometimes require careful investigation for their discovery. Dyspnea, although always present, is never very severe. The heart shows evidence of failure from the

beginning. There is, therefore, considerable tendency to general congestion of a passive kind. Albuminuria is present. The prognosis is always serious, and in seven cases quoted by the writer the termination was fatal, death being due to cardiac failure or asphyxia, and is frequently sudden.

A Sign of Incipient Phthisis.

M. Boix (*Medical Press*, Jan. 30, 1901) read a paper at the last meeting of the Paris Medical Society on a sign of incipient phthisis hitherto unnoticed, that of atrophy of the scapulothoracic muscles. He said that the difficulties of a positive diagnosis of phthisis in its earliest stage are well known. The bacilli of Koch cannot be discovered at that period; consequently one has to fall back on clinical signs. The symptom he referred to, although it may not be new, is not mentioned in text-books; he referred to muscular atrophy of the scapulothoracic region. That atrophy more or less general in advanced stages of the affection is, on the contrary, partial in its *début*, involving one or other of the muscular groups; in one patient the supraclavicular hollow is more pronounced, in another the subscapular muscle is less prominent, and so on; and those differences, in comparison with the healthy side of the thorax, could be easily remarked by a careful observer.

Auscultation of Normal and Pathological Muscle Sounds.

Max Herz calls attention to the fact (*Centralblatt f. Innere Medicin*, No. 1, 1901) that if the ear be placed over a contracting or contracted muscle, a sound is heard which has about the same character and intensity of the first sound of the heart. This sound has a pitch of about thirty to thirty-six vibrations per second. Under pathological conditions this sound changes its intensity and pitch. In a case of Thomsen's disease no muscle sound could be heard. Can it be that the normal systolic sound at the heart is simply a muscle tone and is changed into a murmur in many constitutional diseases? It would be interesting to know if the changes in the heart tones run parallel with the muscle sounds. These sounds have been known for some years, but the author thinks a careful study of them might add greatly to our methods of physical diagnosis.

Abortion of Typhoid.

Professor Baccelli, of Rome, hopes to abort typhoid fever by the endovenous injection of corrosive sublimate. He has had good results from its use in erysipelas, septicemia, and meningitis. Theoretically

the bichloride would coagulate the albumin of the blood and produce an embolism, but Baccelli has not met with any bad results. He has tried the treatment in only one case of typhoid, and though after each injection of one-twelfth grain of bichloride the temperature fell, he cannot say that the subsidence was due to the drug. In all he injected about one-third grain during four days. There were no complications, and fever left after the twenty-second day.

Peritoneal Tuberculosis.

Sippel (*Deut. Med. Woch.*, No. 3, 1901) explains the healing of peritoneal tuberculosis after a laparotomy by assuming that the opening of the peritoneal cavity produces a local hyperemia, which creates a curative serum. Several cases are cited.

THERAPEUTICS.

Iodine Injections in Tuberculous Peritonitis.

Biagi (*British Medical Journal*, Dec. 2, 1900) reports six cases cured: (1) Female, aged twenty, chronic exudative sacculated peritonitis of three months' standing, recrudescent after laparotomy, cured in a month. (2) Female, aged twenty-one, similar case, unoperated on, cured in two months. (3) Female, aged thirty-one, married, phthisis in lungs; after forty-one injections peritonitis cured, lungs no better. (4) Female, aged eighteen, chronic general peritonitis; after twenty-two injections all the effusion had gone. (5) Female, aged thirty-one, general exudative peritonitis of a year's standing; ninety-three injections, with complete cure, improvement beginning on the twentieth day. (6) Female, aged five, free exudative peritonitis, suspicion of pulmonary lesion, literally covered with lichen scrofulosorum; only small area of very slight dulness remains, lichen has gone, and weight has gone up almost fifty per cent.

The dose is from one-sixth to one-half grain of iodine (in an iodide solution), and there never were any inconveniences due to the subcutaneous injections. There is pain, but no risk, and the results are good enough to encourage one to use it so as to avoid if possible an operation. In the subsequent discussion the use of Sclavo's iodized milk was several times recommended as painless, and permitting a fuller dosage of iodine. This is made by the action of pure iodine on fresh milk (with the cream "separated"), and is then kept aseptic by the addition of a little chloroform. The active constituent is an albumen compound of iodine.

Modification of Milk.

Dr. Townsend, in a recent issue of the *Boston Medical and Surgical Journal*, sums up as follows:

1. The modification of cow's milk, with a knowledge of the percentages, is preferable to the guesswork feeding of infants.

2. Percentage feeding can be carried out by a milk laboratory or by home modifications.

3. Milk laboratories are unavailable to many by reason of their absence or on account of the expense.

4. Laboratory modifications do not, in the experience of the writer, agree with infants as often as home modifications.

5. Laboratory modifications are necessarily subjected to more handling and transportation than home modifications.

6. Milk that is fresh, clean, and from cows free from tuberculosis, is preferable uncooked; or, in other words, Pasteurization and sterilization, although sometimes essential, are to be avoided if possible.

7. The method of home modification and of calculating percentages should and can be made extremely simple, and such modifications are sufficiently accurate and uniform.

8. The addition of cereals to the milk, in the form of barley or oatmeal water, is generally advisable after the seventh month, and, if desirable, before that age in some cases, as an aid to the digestibility of the milk.

Picric Acid as a Surgical and Dermatological Dressing.

Thiery (Thirteenth International Congress of Medical Science, Paris, 1900; in *Rev. de Thér. Méd. Chir.*) remarks upon the antiseptic, analgesic, and keratoplastic properties of picric acid in the treatment of burns. Surgeons and dermatologists, however, soon learned the use of this topic in many other instances, the main principle of these various applications being the marked keratogenetic action of the drug as against the powerful keratolytic agency of most antiseptics. Aubert, Brousse, Gaucker, etc., use it in the treatment of eczema. Thiery and Calvelli have demonstrated its usefulness in erysipelas and herpes zoster.

The author insists that dermatologists will secure remarkable results by the suppression of two decidedly antikeratogenetic procedures — *i. e.*, the use of ointments and of moist dressings — and observes that far better results can be secured in most instances by the employment of a saturated solution of picric acid in ether applied with a camel's-hair brush.

Pasteau, Desnos, Scatolari, and Vigneron have successfully

treated gonorrhea with picric acid in local applications; while others report remarkable results in blepharitis, purulent otitis, lupus, phagedenic chancres, and chronic pharyngitis.

Thiery further suggests the possible usefulness of picric acid as a topic in the various inflammatory conditions of mucous membranes.

Amyloform in Chronic Otitis.

Sagebiel has been induced by the good results recorded from the use of amyloform in suppuration, even of deep-seated osseous cavities, to experiment with this drug in the treatment of otitis media.

The insufflation of amyloform was in each case preceded by careful lavage of the ear with a weak formalin solution and careful drying by means of absorbent cotton.

From his experience with forty-two cases subjected to the treatment Sagebiel arrives at the conclusion that amyloform is to be deprecated as a topical treatment of purulent otitis media:

1. Because it has a very limited influence, if any, upon the production of pus; at any rate, it does not approach the efficiency of boric acid, xeroform, or the other usual topical insufflations.

2. Because its presence in the middle ear gives rise to considerable irritative manifestations.

3. Because of its tendency to collect in lumps of variable consistency and tenacity, thereby furthering the occurrence of retention phenomena.

The Use of the Aqueous Extract of the Suprarenal Capsule as a Hemostatic.

W. H. Bates (*Medical Record*, Feb. 9, 1901) discusses the use of the aqueous extract of the suprarenal capsule as a hemostatic. He says the suprarenal extract is the most powerful known hemostatic, and has, when properly used, no objectionable properties. When it is used locally, hemorrhage from mucous membranes can always be controlled. The internal use of the extract as a hemostatic is efficient in some cases. The suprarenal extract, when it controls hemorrhage locally or by internal administration, does so in less than one minute.

Thyroid Treatment of Some Rare Cases.

Jaenicke, of Breslau (*Centralblatt f. Innere Medicin*, No. 2, 1901), reports flattering results from the use of thyroid preparations in several cases, namely, a swelling of the right mammary gland, a lymphoma of the axillary glands, a multiple lymphoma, and three very marked cases of pseudoleukemia with enlarged spleens.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Lecturer on Dermatology, Detroit College of Medicine.

Eczema Accompanying Diabetes.

M. B. Hartzell (*Journal of the American Medical Association*, Jan. 26, 1901) says that one of the commonest and most distressing cutaneous complications of diabetes is eczema, situated most frequently about the genitalia, especially in women. This may begin as a severe pruritus, no evidence of inflammation being at first visible; but presently the skin becomes inflamed, partly from the violent scratching to which the parts are subjected, partly from the irritation produced by various microorganisms — torula cerevisiæ, etc. — whose growth is favored by the saccharine urine with which the parts are apt to be frequently soiled. In many instances the affection is eczematous from the beginning; the skin is bright-red, and oozes a sticky serum which soon dries into thick crusts. The inflammation may be limited to the genitalia, but more commonly it spreads up over the abdomen and down over the thighs, oftentimes involving a considerable area. In many cases this eczema presents nothing peculiar except its localization; but it may assume a very acute erythematous form which runs a rapid course, a form regarded by some authors as characteristic of diabetes. In men the prepuce is often the seat of an eczematous inflammation of a very severe grade, which produces marked thickening and narrowing of the preputial orifice, with the formation of exceedingly painful fissures about its margin, leading in some cases to an extreme degree of phimosis. Balanoposthitis usually accompanies this condition of the prepuce, due to the retention of small quantities of saccharine urine after each act of micturition and the decomposition of the sebaceous material so abundantly excreted in this region. It is worth while bearing in mind that pruritus or eczema about the genitalia may be the first symptom of diabetes occurring in patients who suffer neither from excessive thirst nor polyuria.

The Skin of the Diabetic.

In a paper entitled "Cutaneous Diseases Accompanying Diabetes" (*Journal of the American Medical Association*, Jan. 26, 1901), M. B. Hartzell, instructor in dermatology, University of Pennsylvania, says in part that when the glycosuria is accompanied by excretion of large quantities of urine, and likewise in the last stages of the malady, the

skin is apt to be dry, owing to the great diminution in the quantity of perspiration and sebum excreted, and a constant desquamation of fine white scales goes on; the hair, too, becomes thin, dry, and lusterless. This abnormal dryness of the skin is usually accompanied by a more or less marked general pruritus. The nails of the fingers and toes likewise are apt to present various abnormalities; they are usually brittle and devoid of their normal luster, and in exceptional cases some or all of them are lost. This fall of the nails may be preceded by evident disease, or it may occur without precedent alteration of the nail structure. Hemorrhage may take place into the nail substance, and trophic changes leading to deformity may occur as the secondary consequences of a diabetic neuritis. Intense pruritus localized about the vulva in women, the scrotum in men, the perineum, anus, and inner surface of the thighs in both sexes, is an extremely common symptom of diabetes; indeed, so frequent is this form of pruritus that its presence should invariably lead to an examination of the urine for sugar. The itching in this form of pruritus is almost unbearable, and the violent scratching and rubbing to which the patient is irresistibly impelled leads in most cases to the development of an eczema.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

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Puerperal Convulsions.

Bolle (Trans. Soc. Obst. and Gyn., Berlin) remarks that a form of puerperal disease presenting in cows, and known by the names of calf-fever, puerperal paresis, puerperal eclampsia, etc., closely resembles puerperal convulsions as occurring in the human species. The disease affects only young, vigorous, and fat animals, takes the form of attacks which often assume the epileptiform type, and is characterized by almost complete insensibility, suspension of the corneal reflex, ptosis, frequently by amaurosis, which symptomatic complexus gradually retrocedes, however, when the case ends in a cure. Eleven out of twenty-five cases were complicated with albuminuria. Post-mortem examination reveals nothing in particular, though coexisting cerebral edema, edema of the lungs, hepatic hemorrhage, and often parenchymatous nephritis have been observed. The disease is mostly considered as the result of an autointoxication, and no treatment seemed to influence the mortality rate, which remained above fifty per cent of all

cases until the introduction of the iodide of potassium treatment, when this figure dropped to ten per cent.

Arguing from a similarity of this disease to eclamptic seizures occurring in the human species, the author attempted the iodide treatment in seventeen of his cases. Aside from two which were moribund on admission, and which should not be taken into account, fourteen of these cases recovered and one died.

The iodide of potassium was exhibited in the form of hypodermic injections at the rate of six grammes a day, two injections of three grammes each being made into the connective tissue of the infraclavicular regions.

A noticeable effect occurs only after six hours, hence the necessity of prompt intervention. The iodide rapidly permeates all structures and has been detected in the amniotic fluid, and even in the urine of the fetus. Let the intoxication be of maternal or fetal origin, the liberated iodine penetrates all the tissues and neutralizes the toxins. Aside from this iodide of potassium acts as a diuretic and a cardiac stimulant. It has been thus far proven that the treatment cannot possibly produce any untoward effects, and may eventually be of considerable utility.

Causes, Prevention, and Treatment of Postpartum Hemorrhage.

C. F. Blacker (*Lancet*, Dec. 29, 1900) regards the causes as: (1) Feebleness, exhaustion, or malnutrition of patient; (2) overdistention of the uterus and undue stretching of the uterine muscles, *e.g.*, in multiple pregnancy; (3) exhaustion of the uterine muscles from frequent and prolonged labor; (4) pathologic conditions of the uterine walls, *e.g.*, fibroid tumor; (5) mechanical hindrance to the contraction and retraction of the uterus, *e.g.*, retained placenta; (6) too rapid emptying of the uterus, either by the application of the forceps or after version; (7) extreme nervous depression or shock; (8) administration of chloroform, causing uterine inertia; (9) deficient coagulability of the blood. Prevention is best by small doses of ergot and strychnine with iron and hydrochloric acid during the last month of pregnancy when there is history of previous hemorrhages. In hemophilia calcium chloride in ten-grain doses should be given during the last weeks of pregnancy. Albuminuria should be treated as should the above causes. Ergot is a valuable agent and may be given even before the birth of the child. If, nevertheless, the hemorrhage does occur, the placenta must be expressed, if not delivered already, a hypodermic injection of ergotin given, the uterus kneaded through the abdominal wall, and a hot douche given. If all these measures fail recourse can

be had to normal compression, application of some styptic—*e.g.*, perchloride of iron—and packing with gauze. The patient should also be stimulated.

Slight Febrile Conditions During the Puerperal Period.

K. Franz (*Centr. f. Gynäk.*, 1900, No. 45) believes that in most cases the slight rises of temperature observed in lying-in women are traceable to the penetration of saprophytes into the uterine cavity. The mere presence of these, however, does not produce fever, which occurs only when a retention of the lochiæ takes place.

The saprophytes found in the uterine cavity of women presenting slight febrile disturbances are probably identical with the vaginal saprophytes. Manual intervention during labor has in most cases no causative influence upon the fever unless it brings about some vaginal excoriations which in turn offer favorable culture media for the preexisting germs.

Slight elevation of temperature occurs twice as often in primiparæ as in multiparæ.

A shortening of the third stage of labor increases the liability to fever, while tedious labor, protracted expulsive stage, and early rupture of the amniotic membranes are of little, if any, importance.

Thermometric Fluctuations in Childbed.

Wormser (*Centr. f. Gynäk.*, 1900, No. 45) observes that the usual plan of ascertaining a patient's temperature at 7 A.M. and 5 P.M. secures a correct finding about one-half the time. On the remaining days the 5 P.M. mensuration records a figure inferior by half a degree to the maximum temperature on the corresponding day.

"Larvated fever" extends mostly to one day only, and never produces considerable oscillations. In these cases the figure secured at 5 P.M. is the most reliable. Twice a day mensurations should be taken, preferably at 1 and 5 P.M. A subfebrile temperature at 5 P.M. (37.7° to 38° C. equals 100° to 100.5° F.) should be controlled by secondary mensurations at 7 and 9 P.M.

Use of Obstetric Forceps.

W. J. Gillette (*American Medical Compend*, November, 1900) says that forceps should be used for a delay in the second stage of labor, arising from (*a*) uterine inertia, (*b*) small-size vagina, (*c*) rigidity of maternal tissues, (*d*) obstruction from bands, (*e*) large size of head, (*f*) want of flexion, (*g*) pelvic deformity; for delay in first stage,

(rarely) as in (*a*) placenta previa, (*b*) rigidity of the os uteri, (*c*) absence of a natural dilating agent; for certain accidents in labor in any stage, and when rapid delivery is indicated, as (*a*) convulsions, (*b*) prolapse of funis, (*c*) excessive uterine action, menacing rupture; for certain secondary purposes, as for (*a*) extraction of the child after rupture of the uterus, (*b*) for removing tumors and foreign bodies from the maternal passages.

NEUROLOGY.

UNDER THE DIRECTION OF CHARLES W. HITCHCOCK, M.D., DETROIT, MICH.,
Attending Neurologist to Harper Hospital.

Landry's Paralysis.

The view expressed of late by several investigators to the effect that little ground is actually found for continuing to regard Landry's paralysis as a definite clinical entity is shared by Schwab, who publishes in the December, 1900, number of the *Journal of Nervous and Mental Diseases* a carefully prepared study of a case with autopsy, and reaches the following conclusion:

"While not in any sense doubting either the possibility or the correctness of Knapp and Thomas's assumption of the parenchymatous nature of this process, yet in my case of Landry's paralysis the primary change must have been an interstitial one. I am strongly of the opinion expressed by Taylor and Clark, in a recent article on the subject, that Landry's paralysis is not a definite clinical type, but that it is an acute ascending paralysis comprising a group of symptoms depending upon the most varied causes, and showing such variety of pathological appearances that the term has merely a clinically descriptive value, in much the same way that hemiplegia, paraplegia, or any other term used to describe a clinical picture may have."

Hysteria in Boys and Youths.

A number of most interesting hysterical cases occurring in boys and youths, and all closely simulating other conditions, is detailed by Arthur Hall in the *Quarterly Medical Journal* for August, 1899.

The first case was brought to the clinic because of a peculiar staggering gait not unlike that of cerebellar disease. A threatened reapplication of a strong faradic current brought a flood of tears and a confession of the imposture he had for weeks so successfully practiced. His mother, indignant that he should have been sent home not cured,

brought him, staggering as badly as ever, to the clinic, where another threat effected a sudden "cure."

The second case was a simulated cerebral injury as a result of the falling of a packing-case upon the frontal region. No abrasion or depression was present, no vomiting or discharge from the ears, but two or three convulsions each day. Boiling water, as a remedy, was loudly and ostentatiously called for (even though cold water was supplied), and had a marvelously happy remedial effect.

The third case was supposed to have either a cerebral or cerebellar growth. There was severe occipital headache, vomiting, frequent and severe, though a good record of health up to the sudden onset of these symptoms. Leeches were suggested for the alleged pain, and a complete rest of the stomach by rectal feeding. Speedy cure and return to work followed.

Cerebral tremor, pains and twitchings, meningitis, Jacksonian epilepsy, and lightning stroke were among the conditions simulated in other cases narrated.

RHINOLOGY AND LARYNGOLOGY.

UNDER THE DIRECTION OF WADSWORTH WARREN, M.D.

A Case of Texas Screw-worms in the Nose.

Dr. Foster, of Kansas City (*Medical Record*, Dec. 22, 1900), reports a case in which he successfully removed thirty-five of these worms. The patient, seventy-two years of age, lived in Kansas. Nose, eyes, and face were badly swollen, there was bloody and offensive discharge from the nose, with excruciating frontal headache. The worms could be seen on anterior rhinoscopic examination, but the majority had lodged in the posterior nares. The middle turbinate had been injured and the hard palate perforated.

The nares were first washed with a mixture of alcohol and water, then chloroform was directly applied by means of cotton applicators. This dislodged and brought away the worms. Irrigation with hot water afforded the patient great relief. He was very weak, but under administration of iron and a nutritious diet made a rapid recovery. There was no involvement of the accessory sinuses.

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ORIGINAL CONTRIBUTIONS.

THE USE AND ABUSE OF THE GALVANOCAUTERY IN NASAL SURGERY.*

BY C. D. CONKEY, M.D., WEST SUPERIOR, WIS.

Medicine is far from being an exact science. What is considered as proven at one time is condemned at another. A spirit of scientific criticism is at work in every sphere of the medical world, weeding out the false and establishing the true upon a firm foundation. In a few years we have seen an almost entire revolution in surgical technique, and many changes in the treatment of disease. Pet theories have proven false, and cherished beliefs upon which we had pinned our therapeutic faith have been ruthlessly swept away. We are no longer surprised to find an accepted truth boldly attacked, and none are more ready to accept the proof of error than are the members of our profession to-day. There is danger, however, in accepting as proven theories based upon insufficient data, or upon ideas animated by purely captious criticism. The words of the apostle, "Prove all things—hold fast that which is good," are as fitting for us as professional men to-day as they were for the early Christians.

This tendency to supplant the old for the new has been very strikingly marked in nasal surgery. Many of our early ways of doing things have been replaced by newer ideas and methods. Every rhinologist has a lumber room full of antiquated instruments, and the pile is constantly growing. To this list there is danger of there being added another of our honored and thoroughly tested remedies.

When the galvanocautery was first introduced into nasal surgery as a substitute for acid caustics it was hailed by the rhinologist as supplying a long-felt want. It rapidly took the place of the many reme-

*Read before the Wisconsin State Medical Society, June 22, 1900.

dies then in use for reducing hypertrophic tissues, and has for the last decade held the place which it created for itself. The facility with which it could be used, the perfect control under which it was held, the aseptic wound produced by it, and the readiness with which the tissues returned to the normal condition after its proper use, made it a very desirable surgical agent. The very ease with which it could be used led to its general adoption, not only by nasal surgeons but by a large number of general practitioners as well. Naturally enough this very extended use, without in many cases a well defined knowledge of its applicability, led to a great abuse of this powerful agent. Even the nasal surgeon himself learned through experience that it was a two-edged sword capable of doing immense harm as well as good, and that it could be used only in certain regions and in a certain way to obtain the greatest good.

It is the abuse of the cautery which has produced such a strong reaction against it, undoubtedly, as there is at the present time by specialists in nasal surgery. To what degree this reaction has extended may be judged by the attitude of the leading laryngological society in this country, recently taken in regard to its use. With but two exceptions the speakers were decidedly opposed to it, and some of them severely condemned its entire use. In its place they are substituting the acid caustics, the knife, and the saw, remedies incapable of producing results as quickly and efficiently as the cautery.

It seems to me that the galvanocautery is too valuable a remedy to be relegated to the past. The objections raised against it are too sweeping, and when used in regions suited to it are inapplicable. The fact that it has been abused is no argument against its proper use. The same test applied to every agent in our armamentarium would leave us empty handed. Rather define its use, and it will cease to bring odium upon our profession. That it has been abused there is no doubt. It has been used too promiscuously in every nook and corner of the nose, from the vault to the floor, and from the vestibule to the posterior ends of the turbinates; and in the throat from the vault of the pharynx to the larynx. The objections raised to the promiscuous use of this powerful remedy are that it is too destructive of tissue and dangerous to life—producing atrophy of the tissues and serious inflammatory disease of the brain, which sometimes results in death.

It is pointed out that a red- or white-hot wire introduced into the upper regions of the nose or vault of the pharynx is dangerously near to the brain and its coverings, and that the severe reaction following severe burns may readily spread to the cranial cavity. It is also claimed that, used in certain regions of the throat and larynx, it will

produce dangerous adhesions which are more serious than the pathological condition which it was used to correct. If these objections can be eliminated, and if it is used with a clear idea of its bounds of safety, it will continue to be a remedy of as great value in the future as in the past. To accomplish this end it is important to know when to burn and when not to burn; how to burn, how much, and how much not to burn. Its use should be limited to certain regions of the nose and throat, and in others almost excluded. It is pretty well settled that it should rarely be used in the nose above the lower turbinated bone. The middle turbinate is too closely approximated to the brain for the operator to take the risk of lighting up an inflammation in that organ. The hypertrophies upon the bone partake of a polypoid nature, and are very extensive both upon the anterior and posterior end of the bone. To be of any value at all the cauterization must be extensive. A mere touching of the growth with a cautery point accomplishes nothing. Extensive cauterization is very apt to set up a severe reaction which may readily spread beyond the nose to more vital tissue.

The cautery is far inferior to the snare in removing these polypoid degenerations, and infinitely more dangerous. The septum can seldom be benefited by extensive cautery applications. When covered by a thickly hypertrophied tissue or highly dilated blood-vessels, conditions found in hay-fever and in hypertrophic catarrh, a fine linear incision with a sharp cautery point can be safely used to reduce them. But in doing so the greatest care should be taken that the cartilage of the septum is not seriously injured. It is a common thing to find great sloughing ulcers in this region from the free use of the large cautery electrodes. No doubt permanent perforations of the septum are produced from this source.

The postnasal space is another region from which the cautery should be excluded for the same reason that it is excluded from the upper nasal region, and for the additional danger of setting up an inflammation of the Eustachian tube and middle ear. Small growths may be touched with safety, but the removal of extensive masses of adenoids should be avoided. When adenoids have been removed, leaving small remnants behind, they can be shrunk with a careful touching of the mass with a small cautery. The soft palate and uvula also act badly when treated with the cautery, becoming greatly swollen and edematous.

The base of the tongue is also a delicate region in which to destroy adventitious tissue, owing to the danger of producing adhesions between it and the epiglottis. The same reason applies to the larynx, where serious damage might be done in this delicate region,

whereby adhesions may readily be produced between opposing surfaces. The sharp reaction following a too extensive cauterization might also produce edema of the glottis.

The limits of the upper respiratory tract, upon which the galvanocautery is to be entirely excluded, is very small. Even to the dangerous regions its employment is justified under certain conditions. The real question is, after all, how it is to be used to accomplish the greatest good, and the least evil. The manner of the use varies with every region. The hypertrophies of the nose are not to be treated with the same rigor as are those of the throat. We have a great variety of cautery electrodes which are in many cases unfit for nasal use. When used in the nasal cavities they destroy a great deal of tissue, causing extensive sloughs and a consequent reduction of the mucous membrane of the nose. While we accomplish our purpose of reducing the hypertrophy by this method, we necessarily sacrifice entirely too much of the mucous membrane, the secreting surface of the nose, and lay the foundation for the subsequent development of atrophic rhinitis. Our aim should be to reduce the hypertrophy with the least possible destruction of mucous and submucous tissue. The hypertrophy is located in the cavernous tissue beneath these membranes, and upon it we should endeavor to place the main part of the destructive force. Our aim should be to do, when possible, a nearly submucous operation. This can be done beautifully upon the anterior half of the lower turbinate. The body having been thoroughly shrunken by the cocaine mixture, the finest cautery point is thrust deeply into the anterior end of the turbinate, and with the current still on a quick upward and downward motion of the cautery handle, causing the cautery point to move in the arc of a circle of ten degrees, is made, and the cautery is immediately withdrawn. An extremely limited superficial burn is produced, while the distal end of the cautery has reduced a considerable region in the depths of the cavernous tissue.

This process can be repeated at different sittings, carrying the cautery point a little farther back at each sitting, till the whole anterior half of the bone has been reached. The farther back we go the more difficult will it be to make a direct plunge into the tissue of the turbinate. To gain our point it will be necessary to bend the cautery wire at an angle. The deeper in we enter before plunging into the body the greater will be the angle which the electrode should be bent. By this means the anterior half of the lower turbinate can be treated. Beyond this point it will be necessary to make a linear burn, using for the purpose the finest cautery point, carrying it as deeply as possible into the cavernous tissue. While more mucous membrane is destroyed

by this method than by the submucous incision, still far less is destroyed than by the cautery knife or loop, nor is the reaction so great.

A common accident following the use of even the small cautery point in this region is the subsequent adhesions produced between the turbinate and the septum at the point of the burn. I have often been surprised in finding that these adhesions had been produced following cautery operations where the greatest care had been observed to prevent contact of the opposing surfaces. The explanation is very simple. By experiment I have discovered that the heat radiated from the electrode up to a certain point is capable of burning the tissues not in contact. A thin piece of tissue-paper held in the region of the cautery point, heated to a white heat, will not ignite until brought to about $\frac{1}{32}$ of an inch of it. At this point it burns. Living tissue brought to this point will also burn.

This is a very important point to be borne in mind in the use of the cautery, both in the nose and in other delicate regions. Linear cauterization in a nostril where the caliber is less than this width is apt to produce injury to the opposing surface. The adhesions so produced are easily removed by the same electrode passing through them, followed by a packing of iodoform gauze, replaced every second day until the raw surfaces have entirely healed. Only upon the extreme posterior end of the lower turbinate, where the hypertrophy is usually great, should the heavy cautery knife be used, and here the cold wire snare is much more effective. Used as I have indicated I believe the cautery is the most satisfactory means in our profession in the treatment of hypertrophic catarrh, entirely free from the objections raised against it.

In the throat it has proved such a valuable remedy in my hands that I should be at a loss to do without it. Its effect upon hypertrophic glandular tissue located upon the pharyngeal walls is magical. Nothing will destroy the follicles and dilated blood-vessels, and the hypertrophic bands of tissue lying just back of the posterior pillars, continuations of the tonsil of Lushka, as quickly as it, and all the disagreeable symptoms accompanying them rapidly vanish under its magical touch. Here, too, the small cautery point answers all our needs. By it we can limit the burn entirely to the region involved, and the scar resulting therefrom is so small as to be almost imperceptible and in no way capable of producing atrophic pharyngitis, a condition easily produced by chemical caustics and larger electrodes. The repeated searing of the pharyngeal walls with any caustic, as is so often practiced in the vain hope of giving relief to vague symptoms, often dependent upon constitutional conditions, is reprehensible.

It is not uncommon to find the pharyngeal walls entirely covered with scar tissue resulting from this indiscriminate use of some form of cautery. With the judicious use of the fine cautery point this result is impossible.

There is scarcely a condition where the use of the cautery in hypertrophied tonsils is contraindicated. It is to be preferred to any other measure in several conditions. In the form of the snare it is to be preferred to the tonsillotome in removing tonsils that are of a fibrous, hard nature. In children where the tonsil is prominent it is better to use the tonsillotome, as the danger from hemorrhage is trifling. In adults the snare is preferable, because it is the safer method. A steel wire loop passed over the tonsil tightly is heated to a red heat and then drawn deeply into the tissue of the gland. The current is shut off for a moment and then again turned on, and the process is again and again repeated until the gland is enucleated.

Another method which is very satisfactory in its results, and which I have used a great deal, is that of galvanopuncture. This method applies to all classes, but is extremely well adapted to that class of small depressed but diseased tonsils which cannot be removed with ease with the tonsillotome. Some of them are no larger than almonds, but they are frequently subject to attacks of acute inflammation, or are thoroughly diseased, their crypts being filled with decomposed secretions giving the breath an extremely offensive odor. These can be attacked vigorously without danger of doing harm, provided the cautery electrode does not come in contact with the pillars of the fauces. Here we do not aim to preserve but to destroy tissue, and a broad cautery point should be used, sweeping through the tonsils with a deep furrow. A few sittings will thoroughly eradicate them, or the crypts can each be entered by the cautery point as suggested by Chas. H. Knight, after which a broad flat electrode is made to sear the whole surface.

These methods are practically painless under cocaine anesthesia, and the reaction is extremely limited. I believe that the anesthesia is intensified by submucous injections of Schleich's anesthesia solution.

Much objection has been raised against the use of the cautery in the destruction of growths at the root of the tongue. The danger of adhesions is a real one, as any one knows who has seen the disastrous effects of burns upon opposing surfaces, as is illustrated in the eye or nose. Two raw surfaces brought into contact will become adherent, and when once united it is a tremendous problem to keep them from uniting again. This is especially true in a region so inaccessible as the sublingual region. In spite of this danger I am well satisfied that

the galvanocautery is the best means at our disposal for the destruction of dilated blood-vessels, and the hypertrophied tissue at the root of the tongue. Caustics here are entirely inadequate and very unsafe, while the use of any cutting instrument is liable to injure the neighboring blood-vessels, thereby causing uncontrollable and dangerous hemorrhage.

The secret of successful cautery work in this region is perfect local anesthesia to the parts and to the faucial region above, so that sudden gagging, wrenching, or jerking will be entirely eliminated. This is sometimes accomplished with great difficulty in nervous patients, and calls forth a great deal of patience for its successful accomplishment. I have used the cautery often in this region, removing extensive growths, and have never seen the slightest adhesions. I use for this purpose a very broad cautery, shaped like a chopping knife. After bending the handle at a suitable angle the patient is directed to draw the tongue well forward. With the mirror in the throat the electrode is passed into position and is drawn well forward firmly against the base of the tongue, taking care that a free space exists between it and the epiglottis. The knife can be changed to two or three different locations at one sitting. A dozen such treatments will eradicate the largest lingual tonsil.

The use of the cautery in this region offers no inducement to unskilled hands, but when used with skill the results obtained are a delight to both physician and patient. As an extra safeguard a shield of some non-heat-conducting substance can be fitted to the posterior side of the electrode, such as asbestos or ivory. I have tried a shield composed of mica, which works well, but is too brittle. Glass, the only other transparent substance obtainable, is open to the same objection.

I have had no experience with the cautery in the larynx. It is strongly advocated by many writers of large experience. Scheppegrell in his work on Electricity praises it highly, and claims that from the fact that it "may be carried into the larynx cold and harmless, and can be instantly heated and as quickly cooled when the operation is completed, or where contraction of the larynx makes it necessary, gives this method advantages over all other methods of cauterization in this region." Lennox Brown, upon the other hand, expresses his doubts as to its value in this region, as follows: "While without the electrocautery in diseases of the nose, pharynx, mouth, and tongue, I should feel deprived of at least one-half of my power to help the conditions for which I use it, I have a strong conviction that were I to employ it to such regions as the larynx below the epiglottis, to the pharynx below the same level, or to the esophagus, I should introduce

into my practice a new and grave element of danger." It is to be noted that advocates of the cautery in the larynx recommend nothing but the finest cautery points for laryngeal use.

In conclusion I will briefly restate what I have said above:

1. The objections raised against the cautery are founded upon its improper use.

2. As a matter of routine practice it should not be used upon the roof of the nose, the middle turbinate, the vault of the pharynx, the soft palate, and the uvula.

3. Upon the septum only when much hypertrophied or deeply congested, and then the burn should be neither deep nor extensive.

4. Upon the lower turbinate it may be used to great advantage, confining the applications as much as possible to thrusts, and avoiding large electrodes.

5. In the throat it may be used to the greatest advantage upon the tonsils, pharyngeal hypertrophies and follicles, and at the base of the tongue to destroy dilated blood-vessels and hypertrophied glandular tissue, but using it so as to avoid contact with the epiglottis.

REMARKS ON THE SURGERY OF THE NINETEENTH CENTURY.*

BY HAL C. WYMAN, M.S., M.D.,

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I think this is the first opportunity I have had of appearing before this medical society, and before making any remarks on the surgery of the nineteenth century I would like to say that I think the very best thing the medical student can be engaged in is medical society work. It is exceedingly valuable to medical students because it promotes every-day work. The average student of medicine is concerned mainly in getting his degree, and anything that helps to that end should be encouraged and should be prosecuted. But there is a value, I think, wider than that, in attendance upon medical societies, in this, that to a large degree devotion to the labors of medical organizations where scientific papers are discussed fixes and promotes the useful destiny of the medical man. This profession of ours is an exceedingly strange one; no one man masters it; it is an empire without any specific ruler, no king, no president who absolutely rules, but it is so ordered that he who is outside the pale of the organization of the profession, outside of the medical society, is denied the opportunity for getting information which cannot be had anywhere else and which is of great value to the people. I always feel a sense of regret for the

* Annual address of the "Wyman Medical Society."

physician who thinks he is so busy with his patients that he cannot find time to talk about disease with other physicians. I do not believe there is any man who has been long and closely engaged in practice who is not benefited through intercourse with medical societies, because it is only from intercourse with his fellow physicians that he is able to compass the ideas, the knowledge, which is most useful.

I had in mind, while thinking over the subject, to commence with the operative work of the last century, and carry it along down to the present time, mainly because it is a custom of the day. Nearly all of our medical journals contain accounts of what we might call "terminal" meetings of different medical societies, in which the affairs of the century have been wound up and closed; there has been an abundance of description of the surgery which was common at the commencement of the nineteenth century; and in a general way the work through the century has been sketched along down to the present time. But it would take me too long to run over this whole matter, and a great deal of it you are already fully acquainted with; I would only be thrashing old straw to recite it to you now. I think, however, that it would be just as well for me to say, now, that whatever there is of virtue in our art is of virtue because it can be made useful to the human family, who use it in the treatment of disease. Our art is largely animated by the condition of the people. We are very close to them, and I think no review of surgery does the subject justice which does not embrace definite notions and conceptions of the people. We are accustomed to speak of the people who lived in this country at the opening of the nineteenth century in connection with the war of that period. In fact, about all we learn of history comes from our study of the combat. First we enjoyed reading the story of Goliath, the story of David, and other Biblical accounts of war, which impressed us in our emotional youth, and we got a sort of habit of thinking that there was no such thing as a people quiet, steady, industrious, and happy, unless engaged in wars with some other people. Now, at the commencement of this century, the United States was at peace. There was no nation with whom we were at war. I suppose, from what I have read, that a great majority of the people were engaged in farming. Some were engaged in a very peculiar kind of farming—the raising of slaves for market. Slavery was in vogue. The medical profession at that time, at the commencement of 1800, was composed, comparatively, of about the same type of men as now; men who were ambitious and men who were lazy; men who were too indolent to carry on the active industry of farming and of negro raising; and men who were anxious and ambitious to excel in art—men who loved some one thing for its own sake. Now, people got sick; epidemics came—yel-

low fever, just a little while before the commencement of this century. The doctors had the same controversies as to whether it was really yellow fever or some type of malignant bilious fever, the same as we are now having in some parts of this State as to whether the epidemic is smallpox or some other disease. Things were not absolutely settled. So far as surgery is concerned, I suppose that it occupied about the same plane relatively that it does now. Men did the very best they could with the means at their command to perform operations indicated for the relief of disease. They had dissecting rooms, and in them they sought to acquire operative art through dissections, which were prosecuted with a great deal of assiduity. It was supposed then that the surgeon needed some particular deftness of hand; and I do not know but it is true that there is such a thing as manual dexterity in the practice of surgery. I believe, however, that it is an acquired dexterity, that it is cultivated by dissection, by the manual examination of patients, by actual contact with the field in which the operation is to be performed.

It is singular that the negro should have exerted any influence over surgery, but it is a fact that the first great advances in operative surgery came from the physicians in the slave States — Maryland, Virginia, Carolina, Georgia, and Kentucky. I would not like to say that the earlier part of this century was characterized by people who cared more for their chattels than they cared for their families, but it is possible that we have in our midst to-day people who think more of their horses and their cattle than they do of their children. The people who owned slaves could not afford to have them sick. A slave with a broken leg was a little worse than no slave; he produced absolutely nothing, and yet he was a constant consumer, and, in that sense, a burden upon his owner. To avoid a business failure which might grow out of injuries, accidents, and diseases suffered by slaves, the owners were in the habit of hiring doctors. They went up to Philadelphia, Baltimore, and New York, and picked out the best men they could find. The young doctors who now go to the Philippines and to the West Indies and to China had their counterparts in the early part of this century in the men who left the schools and their homes and went to the plantations to look after sick slaves. A very high order of skill was demanded and was well paid for, and, as a result of the employment of that type of medical skill, there was a very great advancement in medical art. I would not say that there was license given to these young doctors to experiment, to do rash things upon slaves that they would not have done upon free white people—I do not believe that—but I think there was a powerful pressure to hold their positions, to obtain promotion, and to get increased pay. In

the practice of surgery among the slaves, these young men were stimulated to put forth their best effort, and as a result we have some remarkable improvements in surgery: for example, ligations of enormous blood-vessels, which before had never been undertaken successfully; special treatment for fractures, which before had never been thought of. You know what a fracture is, you have all felt a crepitus; you have all seen the grinding and grating of broken bones; and you know how tedious, oftentimes, is the recovery. Now, the first thought of surgical art, in connection with fractures, sought to put the wounded limb in a position where it would give the wounded man the least pain. Fractures of the thigh were placed in a position resting on the outer aspect of the limb, at right angles to the pelvis. The patient could turn toward the broken limb or he could roll away from it, in such a position that the wounded man could raise up, or creep or crawl about, with the least pain. The result was that nearly every man who had a broken thigh bone when he recovered was a cripple. Great shortening, unsightly gait, and disability were the rule in that treatment of fractures. But it did not do to have a slave who could not work. If he was down with a fracture of the thigh, something must be done to make the bone unite in such a way that when the man got well he could work, no matter if he did suffer pain during the period of treatment. Now that idea gave rise to the treatment of fractures of the thigh by means of extension. Just as soon as these young doctors saw what was wanted, what was demanded, they laid aside those notions of comfort and ease, stretched the man out, put a weight upon the limb, took a pulley, raised the foot of his bed so that the body could act as a counter-weight, and held the broken bones in position by means of some powerful extending force. The result was the thighs got well, and the black men or black women were able to do quite as good work after recovery as before.

Skill of that sort spread, and it was not long before we heard of Buck in New York and his extension apparatus. They found it a good thing for the slave, and tried it on the white man, with very satisfactory results. I do not want to say that these young doctors would take the knife and open great cavities of the body which had never been opened before and remove tumors simply because their patients were black, and not free. But I believe the slave woman had her place in the household; she had to work in preparing the clothing for the slaves, in preparing the food for the men upon the plantation, and her space could not be spared—she was needed. If the tumor interfered with her work, it must be gotten rid of; it must be removed. As a result, important operations, entirely new to surgery, were performed. Great cavities of the body, like the abdomen, were opened and tumors taken out, and after the cavities were closed

the patients recovered, and surgery triumphed. I hardly think it would be right in treating this matter to speak as though I thought the slave was the source of all the advantage. There is one thing about operative surgery that I think all of you know, namely, that the foundation of all surgical art is "cleanliness." If we study the people who occupied this country at the commencement of the century, we find that they lacked a good deal of being as clean bodily —physically — as people of to-day. Not long ago I was reading a work about the early settlement of Massachusetts. It was written by Charles Francis Adams, a son of a president of the United States. In this work there was a pretty fair account of the New England people, of the villages, of the township government, of the organization of banks, of the occupation of the people, and frequently we found inventories of their goods; and it is surprising how few houses had baths and other sanitary conveniences. I do not believe that in 1820 the Atlantic seaboard had very many houses with baths. I do not believe, from what I have read, that the average citizen washed with the care and precision that he does to-day. I believe that the American people kept pace with the most highly cultured people of Europe; but certain it is that eighty years ago the standard of personal cleanliness was not as high as it is now, and as a result there was very little in the outcome of operative surgery to stimulate men to advancement. If a man found himself where he must perform some serious operation, the outcome was rarely successful — not because of any lack of skill in technique, not because he lacked dexterity by nature, not because he did not understand the anatomy well, but because the patients upon whom he operated were so filthy, so unclean, that nearly all died in consequence of suppuration and fever. I think that matter had a great deal to do with holding back the advance of surgery, but in spite of it the people began to improve. I suppose the dissemination of schools did more than anything else to bring about the promulgation of sanitary science and a general improvement of the people in cleanliness. Architecture improved the character of the houses, hygiene began gradually to be introduced, and, presently, we had a population which tolerated surgery and gave to the ambitious operator some incentive for his efforts.

We find among the advances of that time the surgery of the chest. How many hundreds of people in New England died in consequence of dropsy of the lungs, dropsy of the chest! Read the old works of the earlier part of this century and see how often you find description of pleurisy and dropsy in which the patients passed away without any surgical attempt to relieve them. But finally, in Boston, Dr. Bowditch pushed a hollow needle into the chest and drew off great quantities of fluid, relieved the dropsy, and restored hundreds of

people. The procedure is commonplace now and hardly deserves mention in connection with operative surgery, but it marked a distinct advance. Then a little later came another phase of surgery. The people becoming cleaner, operations for the removal of tumors were more favorable, and an enterprising surgeon, pushing forward, ever sought new fields for operation in the human body, until presently it was found there could be no further advances until something could be done to relieve pain. Up to 1846 there was very little thought of relieving pain during any surgical operation. All operative procedures up to that time were performed without anesthesia. The patients were strapped down on the table. The man who was to suffer the amputation was fastened, firmly bound, and then the operation proceeded.

The surgeons of that time must have developed a wonderful degree of rapidity in operating. We read in old works of amputations being performed in two minutes. One sweep of the knife, a few strokes of the saw, and the amputation was completed, the limb separated, the arteries caught up and tied. There was a need now of something to relieve the pain, and presently it came—anesthesia by ether and chloroform inhalation. And this was the great advance in the surgery of the century.

It would seem that all that had been practiced in the way of operative surgery before this time was as nothing, scarcely a drop in the sea of surgery by comparison. Just as soon as anesthesia was discovered, so that any needful operation could be performed without pain, thousands of occasions arose for surgery. Then came also less need for haste and speed in operating. You can see that from the start surgery has advanced in accordance with the demands made upon it. The surgeon could look the whole situation over, cut in and explore, and then do his operation. Anesthesia is commonly regarded as the greatest of all the advances which surgery has made. It has, to be sure, modified the art in a great degree, but we must not forget that the increase in the number of operations performed was accompanied by some mortality. People died. The records of the wars after introduction of anesthesia show a frightful mortality—frightful as regards the great number of amputations. In the present day you hardly hear anything about amputations; they are hardly considered a part of surgery, but as a sort of domain of tolerated butchery. After a train has gone over a limb and mangled all semblance of life out of it, little skill is required to trim it and amputate it; but to save and restore it marks a great achievement—a really great advance which came with the introduction of antisepsis, with the introduction of methods for preventing mortality — which deserves to be called an epoch-making achievement. It took a long time to learn that lack

of cleanliness was the cause of mortality; it took a longer time to learn that it could be prevented—but it was finally accomplished. It was definitely learned that by washing a part that was to be the subject of an operation, by washing all instruments, by washing the hands, by having everything absolutely clean that was to come in contact with the wound, mortality could be reduced; and that is the truly great advance in surgery.

Sometimes we hear it said that anesthesia and antiseptics have done more for the human race during the century which is now closing than anything else. I do not know whether that is true or not. It is a little surprising that in the hall of fame, of which we have read so much, no doctor's name appears. Antisepsis and anesthesia, for all they may have done so much for the human race, do not appear to have been considered of sufficient importance to have entitled their discoverers and promoters to be perpetuated in this hall of fame. However, this is not the only instance in history where one's devotion to art has been neglected and failed to receive public appreciation. In that hall are the names of men who invented engines of destruction, who were great generals, who commanded troops, and whom the world calls heroes; and I suppose they are, notwithstanding they have slaughtered thousands, and thereby achieved some glorious end. But I do not think the average medical mind can conceive any situation of that sort. We are so interested in trying to save life, to perpetuate man, that we naturally think the greatest man is he who saves the largest number. However, we are not all the people, only a very small proportion of them, and our relations are very simple indeed. We have to do only with the infirmities of mankind. The needful surgery, which you have studied with so much zeal and will continue to study during the remainder of your lives, concerns most of the people not at all; only the man who is ill, the man who is injured, the soldier who falls wounded in battle, appreciates what you can do.

Now, during the war between the States, as it is called in the South—during the rebellion, as we say in the North—the mortality from gunshot wounds was appalling. Almost every man who received a gunshot had a suppurating wound; many died from gangrene; and all forms of septicemia and pyemia were common. In the recent war with Spain the amputations that were performed on account of gangrene, on account of poisoned wounds, of blood poison, could be counted on one's fingers—in some thousands of men who were wounded. And why? In a climate most severe, men who were unacclimated went to Santiago and received wounds and got well—nearly all of them. They almost invariably recovered without any suppuration or protracted fever—almost no gangrene. After some of the battles that occurred during the last century around Lake

Champlain, between the French and English, several boatloads of wounded soldiers were carried down the lake to be put in hospitals. On the way they had to lie out over night, and the next day nearly all of them had lockjaw, and but a few days later nearly all of them were dead. That was in a period when cleanliness was not as common as during the Spanish war, a time when nothing had been done in the way of asepsis and antisepsis; salves and oils were then the principal treatment of all wounds. Contrast that with what transpired in the more recent war between Greece and Turkey, in the war of the United States with Spain, and the wars now going on in the Philippines, in China, and in Africa. The moment a wound is received a first-aid dressing is applied. The troops are under the most rigid hygiene all the time. Clothing and utensils of every sort are kept as clean as the exigencies of the service permit. The first-aid packet contains an efficient antiseptic powder, which the wounded soldier or his comrade immediately applies to the wound. This is secured by a bandage, which is a part of the first-aid packet. That bandage is thrown around the wound in order to cover both openings, and there is no opportunity for the entrance of germs or material to infect. In case a wound is infected you may be sure that something besides the ball has found lodgment in it. Joseph Lister, when I was a student in Edinburgh, was called to London because of the satisfactory results which had followed his treatment of wounds. He was in a great measure the discoverer and promoter of the antiseptic method of treating wounds; that was in 1874, more than twenty-five years ago, but the story of his labors in antisepsis and asepsis is very much involved, and I do not feel at liberty to recite it here. It may be enough to say that his efforts were appreciated, and he was knighted and made a lord by the English Queen.

It is apparent that the skins on our bodies are where they are for definite purposes, the same as the bark of a tree. There is something in the atmosphere in which we move which constantly tends to destroy us. Every time we rub against something and scrape off a particle of skin our lives are in danger—something that retards growth and tends to undermine health is liable to gain access to the wound. The housewife, in preparing to put up fruit, first destroys all germs by putting the can in hot water, puts in the fruit when hot, and seals it up absolutely so that nothing from without can get in. In that condition it will keep indefinitely; there is practically no limit to the time that it may be preserved in exactly the same condition as when it was put up. But open it ever so little, and just let a bit of air gain access to it, and the whole mass becomes inoculated with something that leads to its final destruction. Just so happens with man. The scheme of cleanliness and asepsis in surgery embraces the same idea—the

preparation of the wound, the preparation of the dressings, so that nothing can gain access to the body that might cause harm and destruction. The special feature of Lister's work when I saw him first in Scotland was mainly in washing out every wound with a spray of carbolic acid, so that every particle of air and all instruments coming in contact with the wound were sterilized, that the wound might heal without pus. While we have not, as yet, reached the golden age of surgery, and have by no means achieved all that can be achieved, it seems like a dream to recall many things that we did a few years ago in the name of antisepsis. We treated a wound as though it was surrounded by ghosts, by horrible dragons. We sprayed the air about it with all manner of sterilizing chemicals. The purpose was all right, but the means were not of the very best. It was learned gradually by careful observation that time had something to do with aseptic results, that the wound itself had much to do with them—that when the knife was drawn across the tissues there were swept by the cutting blade down into the living parts more poison in a single stroke than could get in in a whole week by exposure to the air. It taught us that we must go back into this matter of time. Right here in this hospital we learned a long while ago that the compound fractures of the leg received on Sunday or Monday, when the patient wore clean socks and clean underwear, would recover without suppuration. If the fracture occurred toward the latter part of the week, pus, fever, lockjaw, and sometimes death — all the frightful complications, in spite of our most deliberate methods to avert them—would follow. While general cleanliness conduces to wholesome recovery of compound fractures, water, soap, ether, and alcohol are valuable aids to that end. We did not try to kill something that was in the vicinity of the wound, but we tried to sweep it away, to have the wound clean so that nothing got into it which would require the antiseptic. That is the leading thought of operative surgery of to-day.

Then we try to handle the wounds just as little as possible. No matter how carefully one may wash his hands and scrub with antiseptics, it is quite impossible to get them absolutely clean in a surgical sense. Instruments, however, can be rendered perfectly sterile by heat, and they may be used in the wounds in place of fingers. The good surgeon has his fingers in the wound as little as possible. Instruments are coming more and more into vogue, because they can be thoroughly sterilized. A higher degree of skill in handling tools is gradually being acquired. Now you will remember that in the early days only that surgery was done which was imperatively needed, and when the first incision simply sought to free the tissues and give access to the tumor or to the fracture, and the hand was thrust in and the tumor turned out, or the fracture adjusted, the fear

of hemorrhage was greater than the fear of sepsis; but now we have learned that the danger from hemorrhage is much less than the danger of sepsis. We have better devices for closing wounds and draining them than formerly obtained, yet the greatest danger confronting our patient is the danger from sepsis.

Now in military surgery, and the surgery of accidents, I have remarked that amputations are the exception, where they were formerly the rule. I remember when we used to always cut off the end of the bone if it stuck out a little. During the civil war I was just about old enough to be very much interested in some talk about the amputations that were performed after certain battles. My father was a physician and interested in the sanitary commission of the United States during the war, and at our home I often heard him talk with other physicians about the frightful mortality among the wounded soldiers with gunshot wounds of extremities and joints when not amputated. They were quite apt to die of sepsis and gangrene, and even when amputated often died. Now, instead of amputating for these wounds, an improved method was found to consist of cutting out or resecting the wounded fragments of bones and joints. Thus the resection and excision of bones and joints gave a new feature to operative surgery and greatly increased its scope and usefulness. We have to-day on the pension list of soldiers hundreds of men whose lives were saved by cutting out the wounded and infected part. As I said before, I was old enough to remember some of the bitter criticisms I heard on that subject, and I heard more than once an old surgeon denounce the flail joints that must follow resection. "How are you going to keep those joints quiet so that healing can occur?" he would ask. "How prevent wound fever?" "What is there about that operation more than about an amputation that would protect a patient against gangrene?" In resection and excision is a large raw surface just as there is in amputation. The idea of conservation of a limb was fought bitterly, but it was fought out successfully and without the aid of antisepsis, as we understand it to-day. Now the resection of joints is rare. I have had any number of gunshot wounds of the knee-joint where they got well without any suppuration, in which no resection was performed. Nothing was done except the right thing, and that was to protect the wound from the very start—protect it by antiseptics directly the wound was received.

Perhaps the motive of the operator—the thought, the spirit, the idea which inspires him to do an operation—deserves some consideration. I do not believe any man can do an operation of any magnitude or seriousness who is not inspired. It is that inspiration which comes from an appreciation of the truth, of knowing just what the situation is. Take for example the surgery of the pericardium and heart. You

cannot cut into them to find what the conditions are, you must know them beforehand. The source of inspiration, namely, the perfection of the art of diagnosis, bears a relation to operative technique that I cannot put in words. I think it is what the surgeon says that gives the patient the confidence to submit to almost any suffering in the hope of recovery.

The art by which you learn that such and such a thing is enables you to do an operation and do it well. It prompts you to hurry, to proceed swiftly, rapidly, to be cautious, observant, delaying sometimes at the right time. It becomes almost to the onlooker an instinctive natural force that you cannot analyze or resolve into terms, and yet it is a something which is built up from a very small beginning, from a thorough understanding of the component forces of the body generally—a dissecting-room understanding of the relation of organs to each other, as we understand the relations of houses and streets and streets to houses and country roads; then something finer—an interpretation of the existence of things from certain phenomena that we observe—an impairment of function, a diminution of motion, the color of excretion, for example. All of the older doctors who lived during the early part of this century said a great deal about the tactus eruditus, the ability to feel with the hands and know what was beneath them. Its use was commonly limited to the interpretation of fluctuations, the recognition of fluids; but it has a wider use now. While our dissecting is done practically in the dissecting-room with knife and forceps, all of anatomy is not learned there. I think the best of it is learned by the tactus eruditus—when you put your hand over an organ and recognize and study its different degrees of resistance. In the operative technique of abdominal surgery—operations for appendicitis, for example—I do not think it would be possible by any purely anatomical study for a man to perform them successfully; but one who loves his profession and is stimulated by a high notion of what his art should be can, by putting his hand upon the abdomen, so study the relation of organs within that he will recognize anything that is wrong, anything that does not belong there will show itself by the space it occupies and by the tissues it has changed.

All operative surgery to-day is founded practically upon a careful demonstration of each case. The great clinics twenty-five years ago were all spectacular—they were all show. That is not the way to-day. A man who goes to a clinic now uses his eyes, to be sure, but every one of you knows, when you are sitting back a few rows from the patient, you ache to get your hands upon the limb or growth or body in order to correctly interpret the phenomena of disease. And the new century will develop new facts in surgery, and new fields of usefulness for the sound and healthy man.

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EDITORIAL ARTICLES.

VASELIN INJECTIONS IN SURGERY.

Relying on the fact that vaselin introduced into dilatable tissues practically remains unchanged for an indefinite period and causes no irritation, Dr. Gersuny, a Viennese surgeon, has recently been making interstitial injections of this substance with a view to correcting certain deformities of mechanical origin. The first time he instituted this method of treatment was in a man in whom a double castration for tubercular orcho-epididymitis had been done, and in whom a painful cicatricial contraction of the scrotal tissues had occurred. He first injected into this individual with a Pravaz syringe eight cubic centimeters of vaselin, at the inferior region of the scrotum. Here it formed a round resisting mass. After injection the patient complained of some pain from distention, but this did not long continue. After two weeks' time had elapsed he injected anew on the left side of the scrotum, which was very slightly dilatable from contraction, five cubic centimeters of vaselin. After an interval of fifteen days he again injected three cubic centimeters on the left side and two cubic centimeters on the right. The needle at this injection came in contact with the vaselin mass previously deposited. After a ten weeks' interval he again injected three cubic centimeters on the right side. The result of these injections was very satisfactory in so far that they created two symmetrical deposits that closely simulated, in appearance at least, the organs removed.

The success of this procedure induced Gersuny to use the injections in two other cases. These were cases in which certain defects of articulation remained after harelip operations. Here the injection of a small quantity of vaselin under the pendulous fold of mucous membrane of the lip gave the patient just the amount of labial resistance necessary to complete articulation of those syllables that until then these patients had been unable to pronounce.

It is believed that this treatment can be more generally applied, as, for instance, to elevate depressed cicatrices, or to restore facial symmetry after removal of the superior maxillary bone. The prevention of ankylosis after resections might be avoided by injecting into the cavity a certain amount of vaselin. Later, when a fibrous capsule had formed around the substance injected, the cavity could be evacuated by aspiratory puncture. The deformity arising from amputation of the breast could also be corrected. In a subject of hernia in whom radical operation was impossible, the hernial opening could be closed by analogous injection, and would certainly be likely to act more satisfactorily than coils of silver wire. In vesical incontinence the function of the sphincter could be reestablished by injecting a ring of vaselin under the incompetent sphincter; and, in fact, Gersuny claims to have cured in this way a case of incontinence following operation for vesicovaginal fistula.

The technique of the method is very simple. White vaselin, which is a mixture of solid and liquid vaselin, and which separates at 40° C., is brought to the ebullition point in a water-bath and so sterilized. When it is sufficiently cooled but still liquid, it is placed in an ordinary Pravaz syringe. When more than one syringe is needed for an operation, the needle should be kept *in situ* to avoid another puncture. The puncture can be made painless by the previous use of cocaine, and the needle and syringe are easily cleansed by the use of ether.

EDITORIAL NOTES.

Progress in Typhoid Antitoxins.

The possibility of a typhoid antitoxin seems to be daily becoming nearer. Jez, who reported the use of his extract a year ago in the treatment of eighteen cases, now reports its use in fifty cases with highly satisfactory results. He obtains his extract by first immunizing rabbits against typhoid bacilli, and then from the various organs—the spleen, bone-marrow, brain, medulla, and spinal cord—he procures a dark yellow alkaline fluid, which contains the antitoxin. He treats his cases according to their severity, giving a teaspoonful every hour or two. After the morning temperature has fallen to 100° F., three teaspoonfuls a day, or in all from 400 to 500 grammes, are given. The effect of the extract is noticed after twenty-four hours and inside of forty-eight hours. It changes the continuous fever to an intermittent, until its disappearance in about two weeks. The extract has no effect on any disease other than typhoid. It is entirely harmless, and can be given in large doses with no bad effects. It diminishes

temperature and strengthens the pulse, shortens the course of the disease, and neutralizes the action of the typhoid toxins. It can be administered by mouth, thus avoiding the annoyances of hypodermic injections.

Professor Eichhorst recently had success with the extract in twelve cases, and says: "The rapid improvement in the general condition was astonishing. I used it only in very severe cases, and none of them died. In one case defervescence occurred in seven days, and in the others within four or five days, after beginning the treatment."

Opotherapy in China.

From our more intimate relations with China we may come to realize the empirical value of much that modern medical science is now concerning itself. For instance, in China opotherapy, which is now finding its renewal in our modern use of thyroid and suprarenal glands, has crystallized into certain well-established therapeutical doctrines through long years of empiricism. Opotherapy was probably transported to China from Greece and Rome. To-day the Chinese use the organs of animals in sexual weakness, neurasthenia, and maladies of the liver, kidneys, lungs, and alimentary tract. For restoring virility to man they administer testicles half-cooked; those most sought for are from the tiger. The liver of animals is much used in hepatic diseases and also for the eyes. The gall of the horse is much prized. Chicken stomachs are used in gastritis, and desiccated placenta is administered to facilitate parturition. Regnault, a French observer, saw a marine officer rapidly cured of jaundice by a Chinese extract of liver and gall, and experimenting himself with it had far better results than with calomel.

The Microbe Cannot be Excluded.

Veils and masks cannot prevent infection. The ordinary microbe cannot be guarded against in the way protection can be given against the malarial mosquito. This has been proved by the admirable experiments of Tswiki, who being advised to wear a veil when attending a patient with plague, demonstrated that mouse-septicemia culture sprayed into a room rapidly penetrated heavy meshed silk and absorbent cotton coverings to Petri dishes. The best way to prevent microbic contamination of a room is to keep the air moving.

ITEMS AND NOTES.

GLASGOW is being visited by an epidemic of smallpox.

THERE is an outbreak of diphtheria at the Charleston Navy Yard.

SMALLPOX is reported in more than forty localities in the State of Ohio.

THERE is reported a complete failure of crops in all parts of Russia.

THERE are at present 129 vacancies as assistant-surgeon in the United States Army.

ELLSWORTH COLLEGE, of Iowa Falls, has been placed in quarantine on account of smallpox.

A BOUNTY on rats is being paid by the Stockholm authorities as a precaution against bubonic plague.

THE Oakland Medical College, California, will be ready for the reception of students by September 1.

THE secretary of state for war of Great Britain has recently despatched thirty nurses to South Africa.

THE Woman's Hospital has been incorporated in Los Angeles, California, with a capital stock of $20,000.

THE French minister of war has ordered that lectures be delivered at army posts on the dangers of drunkenness.

THE Board of Health of New York City has prohibited the slaughter of horses and the sale of meat from all such animals.

DR. WM. W. KEEN, of Philadelphia, is about to take a year's vacation, spending it in a leisurely trip around the world.

A BELGIAN Society of Dermatology and Syphilography has recently been founded in Brussels. The president is Professor Smet.

DR. KARL HAEGER and Dr. Friedrich Egger have been appointed extraordinary professors of medicine in the University of Basel.

EMPEROR WILLIAM has bestowed upon Dr. von Holleben, the German Ambassador at Washington, the Crown Order of the First Class.

THE Congress de Gynecologie of France will meet this year at Nantes September 23 to 30. Foreign gynecologists are invited to attend.

THE Berlin University opened a polyclinic, in connection with the Massage Institute, for massage of various affections for patients of all ages.

THE State legislature of Alabama recently enacted a law prohibiting Christian scientists and faith-cure doctors from doing business in that State.

DR. WILLIAM OSLER, of Baltimore, has given $1000 to the endowment fund of the library of the Maryland Medical and Chirurgical Faculty.

THE demand for rooms at the Chicago Lying-in Hospital has been so great of late that an immediate enlargement of the building is imperative.

THE New York Red Cross Hospital and Training School has purchased a new site for the hospital on Central Park West, near One Hundredth Street.

THE *Stylus* has been purchased by, and will be consolidated with, the *Interstate Medical Journal*, and the two publications continued under the latter name.

A BUST of Dr. Horace Green, a pioneer in the medical profession of the city of New York, was presented to the New York Academy of Medicine on February 7.

THE University of Athens celebrated, December 30, the twenty-fifth anniversary of the professional career of its incumbent of the chair of surgery, Dr. S. Manghinas.

PROFESSOR LANNELONGUE, of Paris, is to be presented with a portrait medallion as a souvenir of his services as president of the International Medical Congress last August.

GRADUATES of the Bellevue Hospital and of the New York University Medical College have organized at Chicago a western alumni association of the two institutions named.

THROUGH the liberality of Madame Andre Nottebohn a hospital for skin diseases, which includes a department for light treatment, has been established at Antwerp. Dr. Francois has been appointed directing physician.

THE semiannual meeting of the Medical Society of the Missouri Valley will be held in the city of Omaha March 21. A number of excellent papers have already been promised, and indications point to an interesting meeting.

THE gold medal which is given annually by the Royal Astronomical Society has been awarded for the year 1900 to Prof. Edward Charles Pickering, professor of astronomy and director of Harvard College Observatory, for stellar photography.

THE Western Ophthalmologic and Oto-Laryngologic Association will meet in its next annual session in Cincinnati, Ohio, April 11 and 12. A fine programme has been arranged, and the medical profession is cordially invited to attend the sessions.

A BILL has been recently introduced into the Minnesota Senate providing for a State sanitarium in the pine woods for the treatment and cure of consumptives. It carries an appropriation of $150,000 and an annual appropriation of $50,000 for its maintenance.

THE total number of students in the universities of Germany in the current winter semester is 34,363, as against 34,389 last summer, and 33,353 in the previous winter. The number of students of medicine shows a considerable decrease, being 7113 as against 7543 last winter.

THE Italian government has tendered Dr. Eugene Wasdin, of the United States Marine Hospital Service, the Cross of Officer of the S. S. Maurizio et Lazzaro, in recognition of his services in verifying and confirming the Italian studies and discoveries regarding the nature of yellow fever.

THE Salt Lake City Board of Health statistics show that from October 1 to December 31, 1900, there were 314 cases of smallpox in Salt Lake City, of which 291 were persons who had never been vaccinated. Of the remaining twenty-three cases, fourteen had not been vaccinated for more than twenty years.

A ROENTGEN-RAY exhibition will be held at Hamburg on the occasion of the seventy-third congress of German scientists and medical men, which is to be held in that city from September 22 to 29. The scientific part of the exhibition will be under the direction of Drs. Albers-Schonberg, Walter, and Hahn.

ACCORDING to the *New York Medical Journal*, the health department of Watertown, N. Y., has placed on exhibition a man suffering from smallpox, the health department taking that remarkable method to

convince skeptical physicians and others that the cases of smallpox in town are actually that disease. The man afflicted was placed on a couch before a large window at his home, which faces directly upon the sidewalk.

An Italian Society of Biology has recently been founded on the initiative of a number of eminent professors. The first meeting of the society will probably be held in Rome during the coming Eastertide. The object of the society is to promote the study of the biological sciences and everything relating to the advancement and teaching of these, and it will publish a bulletin giving an account of its proceedings. The society is divided into eight sections, as follows: Anatomy, physiology, pathological anatomy, general pathology, pharmacology, hygiene, zoology, and botany.

Twenty-seven years ago, says the *Medical Record*, Dr. Rudolph Herzog, of Tübingen, undertook excavations in the island of Cos, with a view of finding the temple of Æsculapius. At a depth of 80 centimeters (32 inches) he came upon a mosaic flooring which represented Orpheus charming the wild beasts. At a depth of 2.5 meters (nearly eight feet), in the neighborhood of the church of Saint Anna, he found two columns, and not far from them the remains of an aqueduct and a small statue of a young man. Great importance is attached to Dr. Herzog's discovery of the supposed temple of Æsculapius. The excavations are still in progress, and it is hoped that many antiquities will be unearthed.

Dr. Augusto Rocha, professor of clinical medicine in the University of Coimbra, and editor of the *Coimbra Medica*, has recently died of aneurism of the ascending aorta. He was born at Coimbra in 1849, studied medicine in the university of that city, and took the degrees of licentiate, and a few months later of doctor, in 1876. He was appointed professor in 1882. Professor Rocha was the author of numerous contributions to medical literature, among which may be mentioned monographs on the Intravenous Injections of Chloral in the Treatment of Tetanus, an Investigation of the Typhoid Bacillus in the Drinking-water of Coimbra, Studies on the Nervous System, and papers on medicolegal subjects.

The British royal commission on army medical arrangements in South Africa made the following report: "The civil surgeons employed in this campaign have, as a body, done their duty extremely well. But few complaints have been made against any of them, and such complaints as have been made are not of a grave character. As a rule, the civil surgeons worked well with the officers of the Royal

Army Medical Corps. A few cases of friction occurred between them in certain hospitals. These arose from faults on both sides. Some civil surgeons not unnaturally felt a difficulty at first in becoming acquainted with the working of military hospitals, but as a rule they soon became familiar with their duties."

GOVERNOR BLISS, of Michigan, has appointed the following physicians members of the State Board of Registration in Medicine. The terms of the first five end on October 1, 1901: Dr. Joseph B. Griswold, Grand Rapids, regular school; Dr. George E. Ranney, Lansing, regular school; Dr. Walter H. Sawyer, Hillsdale, regular school; Dr. Austin W. Alvord, Battle Creek, regular school; Dr. Henry B. Landon, Bay City, regular school; Dr. Joseph H. Cowell, Saginaw, homeopathic school, term ends 1901; Dr. Albert Lodge, Detroit, homeopathic school, term ends 1903; Dr. William Bell, Belding, eclectic school, term ends 1901; Dr. Henry C. Maynard, Hartford, eclectic school, term ends 1903; Dr. John Kost, Adrian, psychomedical school, term ends 1901.

THE Colorado State Medical Society offers a prize of $25 for the best essay, if deemed worthy of the prize, pointing out the dangers to public health and morals, especially to young persons, from quackery as promulgated by public advertisements. The competition is open to all. Essays must be typewritten, in the English language, and submitted before May 15, 1901. Each essay must be designated by a motto, and accompanied by a sealed envelope, bearing the same motto, and enclosing the name and address of the author. The essay receiving the prize will become the property of the society for publication; others will be returned on application. Essays should be sent to the Literature Committee, Room 315, McPhee Building, Denver, Colorado.

THE *Galveston News* of a late date reports the adoption of a resolution by the Democratic Convention at Waco, on December 22, as follows: "Resolved, that we favor the creation of a State board of health with the provision for the collection of vital statistics of the State, as provided for by the constitution, article 16, section 32, and the enactment of laws to distribute the expenses of improvement of quarantine equitably between the State, counties, and municipalities." The Texas State Medical Association has appointed a committee to draft a bill creating and defining the powers of a State board of health as contemplated by the resolution. Its scope is expected to enlarge and make more efficient the State Health Department than it has ever been heretofore.

NEW PUBLICATIONS.

PRACTICAL OBSTETRICS.

The new edition of this excellent text-book of practical obstetrics has been amplified by an additional chapter dealing with the anatomy of the female organs of generation and with embryology. The work, by reason of its lucid text and realistic illustrations, amply fulfils its intention of being a thoroughly modern and practical manual on the subject with which it deals.

A Text-book on Practical Obstetrics. By Egbert H. Grandin, M.D., Gynecologist to the Columbus Hospital; Consulting Gynecologist to the French Hospital; Late Consulting Obstetric and Obstetric Surgeon of the New York Maternity Hospital; Late Obstetrician of the New York Infant Asylum; Fellow of the American Gynecological Society, of the New York Academy of Medicine, of the New York Obstetrical Society, etc. With the Collaboration of George W. Jarman, M.D., Gynecologist to the Cancer Hospital; Instructor in Gynecology in the Medical Department of the Columbia University; Late Obstetric Surgeon of the New York Maternity Hospital; Fellow of the American Gynecological Society, of the New York Academy of Medicine, of the New York Obstetrical Society, etc. Third Edition, Revised and Enlarged. Illustrated with Fifty-two Full-page Photographic Plates and One Hundred and Five Illustrations in the Text. 6½ x 9½ inches; pages xiv–511. Extra Cloth, $4.00, net; Sheep, $4.75, net. Philadelphia: F. A. Davis Company.

MATERIA MEDICA AND THERAPEUTICS.

This now well known work in materia medica appears under an altered form. The number of new remedies introduced into medicine in recent years has made a description of them impossible within the compass of a convenient volume. The author has therefore decided on two independent issues, one to be known as the Students' Edition and the other as the Physicians' Edition. The present is the student's volume, and the author has evidently spared no pains to make it what the student wants. It contains a complete account of the drugs and preparations official to the Pharmacopœia of the United States and Great Britain.

Students' Edition. A Practical Treatise of Materia Medica and Therapeutics. With Special Reference to the Clinical Application of Drugs. By John V. Shoemaker, M.D., LL.D., Professor of Materia Medica, Pharmacology, Therapeutics, and Clinical Medicine, and Clinical Professor of Diseases of the Skin, in the Medico-Chirurgical College of Philadelphia; Physician to the Medico-Chirurgical Hospital; Member of the American Medical Association, of the Pennsylvania and Minnesota State Medical Societies, the American Academy of Medicine, the British Medical Association; Fellow of the Medical Society of London, etc. Fifth Edition, Thoroughly Revised. 6¼ x 9½ inches. Pages vii–770. Extra Cloth, $4.00, net; Sheep, $4.75, net. Philadelphia: F. A. Davis Company.

YEAR-BOOK OF MEDICINE AND SURGERY.

The Year-book for 1901 is issued in two volumes, one dealing with medicine and the other with surgery, in the same way as last year. The subject-matter is arranged in the very best way for ready reference or easy consultation. The work condenses the medical literature of the year in a most concise and able manner, and the medical writer or practicing physician will find his resources in the way of ready reference much added to by these two excellent volumes.

The American Year-book of Medicine and Surgery for 1901. A Yearly Digest of Scientific Progress and Authoritative Opinion in all Branches of Medicine and Surgery, Drawn from Journals, Monographs, and Text-books, of the Leading American and Foreign Authors and Investigators. Arranged with Critical Editorial Comments, by Eminent American Specialists. In Two Volumes—Volume I, Including General Medicine, Octavo, 681 pages, Illustrated; Volume II, General Surgery, Octavo, 610 pages, Illustrated. Per volume: Cloth, $3.00, net; Half Morocco, $3.75, net. Philadelphia and London: W. B. Saunders & Co., 1901.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Treatment of Fractured Patella by Operative Measures.

When, says F. H. M'Naught (*International Journal of Surgery*, February, 1901), the fractured parts cannot be returned to their normal condition by manipulation and the fractured surfaces held in apposition by some form of surgical appliances—*i. e.*, where the effusion, muscular retraction, and amount of tissue intervening between the fractured surfaces are so great that the parts cannot be approximated—operation is advisable.

When the fracture is of such a nature that a serious primary defect is to be expected, or where the secondary defect is liable to increase with time. Often in fractures about the joints, where only fibrous union alone can be hoped for, time increases the defect rather than removing it, namely, by allowing a greater separation at the line of fracture through absorption and lengthening out of the fibrous material found between the fragments.

When there is any suspicion of infection following fractures, in the writer's estimation we are warranted in opening the joint, thoroughly removing the source of infection, and making such application for the treatment of the fracture as the case may demand.

We must recognize that refracturing, or rather rupturing, of the uniting fibrous medium is liable to occur in non-operated cases. Stephen Smith says that in considering the prognosis of fractures treated without operation we have to consider the danger of rupture of the newly formed bond of union, and his statistics show a startling frequency of this accident. Knowledge of this fact is of great import in discussing operative measures, and it has been shown that the majority of cases of so-called refractured patella refuse to unite, so that we should be forced to an operation for the correction of this latter defect if we hope to obtain a fairly useful limb.

Osseous union rarely obtains under non-operative treatment, while in the cases treated by wiring, or through other surgical procedures, bony union is always to be expected.

We must recognize certain conditions and surroundings when we take into consideration the operation of arthrotomy for fracture, especially of the patella—*i. e.*, our patient must be in the best possible state, as infection is less liable to follow normal conditions than abnormal.

No operation of this kind should be considered other than in surroundings that are most favorable for the avoidance of infection; since practically there is no danger from ankylosis after arthrotomy if the principles of asepsis are strictly adhered to.

The remote possibility of infection following the opening of joint surfaces should be explained to the patient or friends, and permission be obtained before an operation is discussed.

Statistics and the histories of operations performed for fracture of the patella in well conducted institutions give better results than the non-operative methods. Usually the accidents that have occurred from this operation result from some defects in the details which are avoidable.

Gelatin Injections.

Mariani (*Il Policlinico*, January, 1901), as the result of experimental and clinical observations, believes that two-per-cent solutions of gelatin in physiological saline solution when injected hypodermically are absorbed in proportion to the amount injected. Whether such injections hasten the coagulation of the blood seems a little doubtful, for in the animals experimented upon purely physiological variations in the time of coagulation (as estimated by comparison of the time of formation of the first layer of coagulum) were observed equal to those which seem to follow the gelatin injections. Endovenous injections undoubtedly hasten coagulation. The density of the blood is also modified by the injections. In three cases of aneurism, in which hypodermic injections were given, decided improvement occurred, although no definite cure. For example, in the first case (one of thoracic aneurism) 1250 cubic centimeters of two-per-cent gelatin solution was injected in seven doses in the course of two months, with the result that the area of dulness was diminished, the tumor reduced (as tested by radioscopy), the epigastric pulsation disappeared, and the fremitus and double murmur to the right of the sternum disappeared. The treatment was tried in hemoptysis with temporary success. The effect is only temporary, and much the same results can be obtained by other means. No bad effects were observed after the injections, which were generally given in the nates.

Laceration of the Spleen, and Operation.

Professor Jordan, of Heidelberg, reports in the *Münch. Med. Woch.*, No. 3, 1901, a case of a young army officer who had been thrown from his horse, falling with his left side upon the hilt of his sword. Immediately after the fall he suffered intense pain, with but little shock, and

continued to grow much weaker. Jordan found the patient very anemic, restless, greatly nauseated, with frequent vomiting, shallow breathing, pulse small and over 130. The abdominal muscles were contracted and hard, and there was a contusion on the left side about the size of a dollar. There was great pain upon pressure in this region, further palpation being impossible; dulness on the right side as well as on the left, but the area of dulness over the spleen did not change with position, so the liver was excluded, and also a tear of the mesentery or omentum, for they would hardly produce so rapid and profuse a hemorrhage. Jordan decided upon immediate operation to stop hemorrhage. Before and during the operation saline transfusion had to be resorted to several times. The spleen was removed, and two liters of blood from the peritoneal cavity. Notwithstanding that after the operation meteorism, vomiting, and atony of the intestines occurred, together with symptoms of circumscribed peritonitis, the patient recovered in four months.

Lewerenz has collected the results of 135 similar cases, of which fifteen recovered without operation, and sixteen were saved by removing the spleen, while the remaining 104 all died. No surgical interference was attempted in ninety. Death occurred within twenty-four hours in eighty-five per cent, and in two or three days in less than ten per cent, always from the hemorrhage or its consequences.

Gastric Hemorrhage and its Surgical Treatment.

A. W. Mayo Robinson (*The Lancet*, Feb. 9, 1901), in an article on gastric hemorrhage and its surgical treatment, says that all cases of acute uncomplicated gastric ulcer should be submitted to thorough medical treatment in the shape of long-continued rest and attention to diet, the patients not being allowed to get up or to resume solid food until at least a fortnight after all disappearance of pain. Where the ulceration persists and proves intractable to medical treatment, or where relapses occur, gastroenterostomy should be performed so as to secure physiological rest and relieve the hyperacidity of the gastric juice nearly always found in such cases. Perforation demands immediate surgical treatment. The complications of disabling adhesions around the stomach and pylorus, pyloric contraction, and hour-glass contraction due to chronic ulcers leading to pain, dilatation, loss of flesh, and general impairment of health, now often treated as chronic indigestion, should be treated surgically. In recurring or so-called chronic hematemesis from gastric ulcer, surgical treatment is decidedly called for. In acute hematemesis, further accuracy in diagnosis as to the size of the bleeding vessels is urgently needed; and the

cooperation of the physician and surgeon is advisable in all cases of hematemesis, so that if relief be not obtained by medical and general treatment surgical means may be adopted if the bleeding is believed to occur from a large vessel; but seeing that capillary hemorrhage is capable of relief by medical means alone, this should always precede surgical treatment.

MEDICINE.

The Atypical Initial Symptoms in Tuberculous Meningitis, and Their Importance.

At a recent meeting of the Vienna "Doctoren Collegium," Zappert (*Medical Press*, Jan. 30, 1901) gave a long discourse on the different forms of meningitis, their diagnosis, and their treatment by lumbar tapping of the spinal cord. The usual prodromi of tuberculous meningitis are often absent, but when headache, vomiting, slow pulse, and psychical changes are present, the diagnosis is easy. Yet there is a want in our systematic arrangement which should now be supplied, seeing that localization is so well known, as pointed out by Hirschberg, Chantemesse, etc., who think that treatment should depend upon position.

The atypical initial symptoms of tuberculous meningitis have a regular course if properly interpreted. It should be as easy to locate the center affected as it is in effusions on the convexity of the encephalon when paralysis, paresis, etc., are the indices of the position. If this cannot be done with certainty the early symptoms should be noted and the lesion proved on the post-mortem table. In searching for the primary point of lesion it should be borne in mind that fresh exudation on the soft brain matter is not so easy to find, owing to the want of definition, but in advanced conditions the various steps should be noted.

In the case of the whole convexity being implicated, the symptom most prominent is convulsions; if Broca's convolution, aphasia is the result. Along with these general conditions the cortical centers of the face and arms may be so disturbed as to seriously interfere with their functions. In a similar manner a primary lesion of the facial center may affect the proximate centers of the upper limbs and legs, and if the lesion be on the left side the speech also will be affected. It is therefore easy to define the cortical lesion of a paralyzed arm and its invasion of the limb or face of the same side, which are frequent consequences, but it is difficult when a lower extremity is the primary center, as in this case; the progress is not an invasion of the motor

centers of the arm, face, and speech, although the latter is not uncommon in the morbid progression.

One peculiarity associated with tuberculous meningitis is the frequent combination of sensory phenomena along with the motor paralysis, that may tend to obscure the clinical picture. Similar parallels are to be found in central disturbance of the oculomotor muscles, where the center of vision will also be found affected, as, for example, hemiopia, which the lecturer has seen with spasms on the right side.

Tuberculous meningitis very rarely has its origin in the coverings of the spinal cord, and therefore is seldom an index of any value in the early diagnosis of tuberculous meningitis.

The Etiology of Yellow Fever.

W. Reed, J. Carroll, and A. Agramonte (*Journal of the American Medical Association*, Feb. 16, 1901), in an article on the etiology of this fever, have from their work drawn the following conclusions:

1. The mosquito, *C. fasciatus*, serves as the intermediate host for the parasite of yellow fever.

2. Yellow fever is transmitted to the non-immune individual by means of the bite of the mosquito that has previously fed on the blood of those sick with this disease.

3. An interval of about twelve days or more after contamination appears to be necessary before the mosquito is capable of conveying the infection.

4. The bite of the mosquito at an earlier period after contamination does not appear to confer any immunity against a subsequent attack.

5. Yellow fever can also be experimentally produced by the subcutaneous injection of blood taken from the general circulation during the first and second days of this disease.

6. An attack of yellow fever, produced by the bite of the mosquito, confers immunity against the subsequent injection of the blood of an individual suffering from the non-experimental form of this disease.

7. The period of incubation in thirteen cases of experimental yellow fever has varied from forty-one hours to five days and seventeen hours.

8. Yellow fever is not conveyed by fomites, and hence disinfection of articles of clothing, bedding, or merchandise, supposedly contaminated by contact with those sick with this disease, is unnecessary.

9. A house may be said to be infected with yellow fever only when

there are present within its walls contaminated mosquitoes capable of conveying the parasite of this disease.

10. The spread of yellow fever can most effectually be controlled by measures directed to the destruction of mosquitoes and the protection of the sick against the bites of these insects.

11. While the mode of propagation of yellow fever has now been definitely determined, the specific cause of the disease remains to be discovered.

The Various Rings Produced in Heller's Nitric Acid Test for Albumin.

Fussell (*University Medical Magazine*, December, 1900) calls attention to the three rings in the above test, and explains them as follows: (1) The color ring. This ring forms in practically all urines, whether there is albumin present or not. It is especially marked in concentrated urines rich in coloring matter, and in the urine of patients taking iodide of potassium or salol, or indeed any of the coal-tar products. It is at the point of contact between the acid below and the urine above. (2) The white zone of albumin is always found above the dark, constant color ring. This ring is of a densely opaque white, and is especially so when there is but little coloring matter in the urine. If there is a small amount of albumin present, as in urine containing pus, the ring is less dense. (3) There is the urate ring, which forms high above the albumin ring, when albumin is present. The color ring which forms at the line of the acid and urine usually disseminates into the acid below, and sometimes into the white albumin ring above. It is always below the albumin ring. The white albumin ring is wholly in the urine and always above the color ring, though it may later on be somewhat discolored by it. The urate ring is far above, sometimes one-quarter or one-half inch above, the albumin ring, and is easily dissipated by heat.

The Cause of Natural Immunity after Certain Infections.

Wasserman reports an experiment (*Deut. Med. Woch.*, Jan. 3, 1901) which he believes shows that the natural resistance to disease is chiefly due to complements (alexines) in the organism — that is, ferment-like substances are present in the normal blood, which have the power to destroy bacteria, thus being the important protection of the organism against infection.

He injected into normal guinea-pigs an agar culture of typhoid bacilli, mixed with normal rabbit blood-serum. These all lived. But if the culture were mixed with serum taken from rabbits which had

been injected with normal guinea-pig serum, the guinea-pigs died. The serum of the latter rabbits contained anticomplements (antialexines). In animals infected in this way he found that the peritoneal fluid about an hour afterward showed great numbers of motile typhoid bacilli, showing that the organism in these animals could not control the infection. On the following day the animal usually died.

A New Sensitive Sugar Test.

Riegler (*Deut. Med. Woch.*, Jan. 17, 1901) reports an improvement upon the phenylhydrazin test. He places a pinch of crystal sodium acetate and pure white phenylhydrazin hydrochlorate in a porcelain dish and adds one cubic centimeter of urine, brings to a boil, and adds ten cubic centimeters of normal sodium hydrate solution. If a red-violet appears within a minute, sugar is present. If there is no sugar present a pinkish color appears in fifteen to thirty minutes.

Typhoid Bacilli from the Roseola.

E. Fraenkel, of Hamburg (*Zeitsch. Hygiene u. Infectiose Krankheiten*, Bd. xxxiv, Heft 3), obtained cultures of typhoid bacilli by excising the skin containing the roseola spots and placing them in bouillon. He believes the roseola represent inflammatory spots caused by typhoid bacilli which are hidden in the lymph spaces.

THERAPEUTICS.

The Treatment of Erysipelas.

N. G. Keirle (*Philadelphia Medical Journal*, Feb. 16, 1901) offers the following method for the treatment of this affection:

The affected area is first enclosed in a painted ring of tincture of iodine. The ring is not to be started at the margin of the reddened area, but from two to three inches from it, and a sufficient number of coats should be applied to cause a slight desquamation of the upper layers of the skin. At the same time the whole surface enclosed in the ring is to be covered with an ointment of ichthyol, about one drachm to one to two ounces of vaselin. This is covered with a piece of gauze and a hot stupe applied, and changed about every four hours. At the end of twelve hours the ichthyol ointment is washed off and a fresh coat applied, and if the iodine has not had sufficient effect, one or more new coats are applied. Internal treatment may or may not be instituted, as the result is the same in either case. Although

both iodine and ichthyol are used in the treatment of erysipelas, we have not heard of any cases treated as above. In the writer's cases three or four days of this treatment have not failed to stop the trouble, the inflammation not crossing the painted line of iodine except in one case, in which another ring painted further out, and the same treatment as at first, effectually stopped the spread of the trouble. He makes no claim to originality, but cannot remember having seen the above used, and the success is so uniform that it is offered as a suggestion to those who have had trouble in checking this at times troublesome disease.

Diphtheria Antitoxin Used Successfully by the Mouth.

It being thought, says W. C. MacDonald (*The Lancet*, Feb. 9, 1901), that the antitoxin of diphtheria must for successful exhibition be hypodermically injected, the following may be useful:

A girl, aged fourteen years, having both tonsils covered with a soft white pellicle and with no symptoms but a sore throat, very slight enlargement of the related lymph glands, and a temperature of 38.2° C., at 11 A.M. on November 12, 1900, was given 1500 units of antitoxin by the mouth on the second day of the illness. One patch yielded the diphtheria bacillus, as was certified by the medical officer of health. Within twenty hours of giving the antitoxin the right tonsil was quite clear. No application was made, nor was any gargle used to the throat. On the third day there was no pellicle to be seen, and at 11.30 A.M. the temperature was 35.8° C. On the fourth morning the temperature was 37° C. On the tonsil which was at first the most affected was seen a slight recurrence of pellicle. For this another 1500 units of the dissolved dry antitoxin was given by the mouth. She recovered uneventfully and as quickly as possible.

In an earlier case, where the struggling on attempting to hypodermically inject the antitoxin of diphtheria made that method impracticable, the antitoxin was rectally injected. The benefit was equal to that in the case described above. In this case, however, diphtheria was not bacteriologically proved, but clinically it was certain.

Dysmenorrhea.

At a recent meeting of the Paris Medical Society (*Medical Press*, Feb. 13, 1901) a member read a paper on the treatment of the pain of dysmenorrhea by touching the nasal fossæ with a solution of cocaine (1:5), as recommended by Fliess. Hardly were these zones touched with the solution than the patients asserted that the abdominal pain had disappeared as if by enchantment. When the cocaine touched

the anterior extremity of the inferior turbinated bones, all hypogastric pain disappeared, while the pain in the back yielded when the solution was applied to the nasal tubercle. When the pain was unilateral it was sufficient to touch the nostril of the same side. Both the anterior extremities of the inferior turbinated bones and the nasal tubercle were called by Fliess "genital points," and to prove the elective action of these regions on the sensibility of the utero-ovarian region, the Austrian professor anesthetized all the mucous membrane of the nasal fossæ, with the exception of the genital points, and no relief was experienced by the patients.

Consequently, it might be inferred, said Professor Schiff, that the sufferings experienced in certain cases of dysmenorrhea have not their seat in the genital organs, but are produced by a certain irritation of the nasal fossæ.

Can Pneumonia be Aborted?

Dr. J. Paffrath (*Deut. Med. Zeit.*, No. 42, 1900) thinks that it can. His remedy consists in a combination of antifebrin and Dover's powder, which he administers every three or four hours, day and night, until the temperature becomes nearly normal. The doses of the drugs for each powder are: Antifebrin, 6 to 8 grains; Dover's powder, 4 to 5 grains. The powders are interrupted when the temperature falls to 100.4° F., to be resumed when it rises higher. This treatment was used by the author in many cases of pneumonia of the severest type, and with strikingly favorable results. In not a single case has the author noticed any collapse or any other untoward symptoms following this treatment. He considers the weakening and depressing action which the untreated fever exerts on the heart much more dangerous and ruinous than the effects of the antipyretic. Antifebrin, in combination with pure opium, acted much less favorably than when in combination with Dover's powder.

Treatment of Mosquito Bites.

Dr. A. Manquat (*Bull. Gén. de Thérap.*, Nov. 15, 1900) has treated numerous cases of mosquito bites with various substances, and has come to the conclusion that the most efficient applications are formaldehyde, tincture of iodine, and alcohol, or eau de cologne with menthol. The solution of formaldehyde the author uses consists of formaldehyde (40-per-cent), 1 drachm; alcohol and water, of each 2 drachms. As to the relative efficiency of the above mentioned substances, formaldehyde takes the first place, but it causes considerable burning and sometimes even inflammatory reaction, and must be applied several

times in succession. Tincture of iodine leaves a stain, produces desquamation of the skin, and therefore cannot be used very well on exposed portions of the body. For ordinary cases the application of alcohol or eau de cologne with menthol will, therefore, be found more satisfactory.

Creosotal in Whooping-cough.

Politzer (*Nouv. Rém.*, Nov. 24, 1900) advises the use of creosotal in whooping-cough, and reports brilliant results from the employment of three drops of creosotal exhibited in a cup of milk three times a day.

The following formula for the preparation of a pleasant creosotal emulsion is also given in a contemporary:

℞ Ol. amygd. dulc ..... 40 grammes.
Aq. destill..... 45 grammes.
Creosotal ..... 20 grammes.
Pulv. acaciæ..... 20 grammes.

M. Adde ad lib.

Aquæ..... 15 grammes.
Spir. vini gall ..... 50 grammes.
Sacch. albi..... 10 grammes.

Vomiting after Chloroform Anesthesia and its Prophylaxis.

Professor Lewin, of Berlin (*Deut. Med. Woch.*, No. 2, 1901), believes that most cases of vomiting after chloroform anesthesia are due to the irritation of the chloroform in the stomach. The vapor of the chloroform mixes with the increased saliva and is swallowed. To prevent this irritation, Lewin recommends a local anesthetic for the stomach mucous membrane with a cocaine solution of 0.001–0.002 per cent, also a large drink of some mucilaginous substance to coat the stomach and prevent the action of any swallowed chloroform.

OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,

Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

Tuberculosis of the Middle Ear.

Alfred Bruck (*Journal of Tuberculosis*, January, 1901) mentions as special features in middle-ear tuberculosis absence of pain, slight reaction on surrounding parts, and, in most cases, the tendency to cause in a short time excessive destruction. No tubercular patient is to be considered as tubercular with absolute certainty until the

bacillus can be demonstrated. The prognosis is nearly always bad; complete healing is rare. The general condition of the patient as well as the ear itself must receive the careful attention of the surgeon. Boiled water douches followed by loose tamponing with sterilized gauze are advised. Where the discharge is fetid the author uses four to six drops of formalin solution to the quart of lukewarm boiled water. The powder treatment may be employed where the perforation in the membrana tympani is large, the powder containing europhen and boric acid, and applied after first syringing and wiping the ear carefully. For small granulations absolute alcohol diluted with water, using gradually less water until pure alcohol can be tolerated, should be employed. Larger granulations should be cauterized.

RHINOLOGY AND LARYNGOLOGY.

UNDER THE DIRECTION OF WADSWORTH WARREN, M.D.

The Preponderating Rôle of Autointoxication in Periodic and Aperiodic Coryza—Therapeutic Deductions.

Mounier, of Paris, presented to the laryngological section of the last International Medical Congress (*Laryngoscope*, vol. x, No. 1) a paper with the above title.

The starting point of this paper is a case of spasmodic rhinobronchitis, which the writer was enabled to follow in all its details for years, and cure in a few weeks by an appropriate simple diet.

The ten other cases with complete cure or considerable improvement are a confirmation of the importance of autointoxication (gastrointestinal) in the two forms of spasmodic coryza.

The elimination of toxins by the Schneiderian membrane and the glands of the respiratory system explains (1) the attacks of aperiodic coryza; (2) the exceeding susceptibility of the nasal and bronchial mucosa to external excitations in coryz clearly periodic.

A diet must, therefore, be the basis of all treatment of a serious nature, and for adjuvants certain remedies such as strychnine and benzonaphthol.

Surgical intervention on the turbinates and deflections of the septum, or on the hypertrophied tissues of the nasopharynx, must not be neglected on that account, especially in hay-fever.

The Position of the Vocal Cords in the Cadaver.

Fein, of Vienna (Fraenkel's *Archiv f. Laryngologie*, Bd. xi, H. 1, p. 21, 1900), has undertaken an investigation regarding the so-called

cadaveric position of the vocal cords. He examined fifty cadavers of adults in various stages of rigor mortis, and measured the width of the glottis at the level of the processus vocalis with a graduated laryngeal mirror. As a result of his investigations, he publishes the following conclusions: "The vocal cords, a short time after death, stand in the middle line or very nearly so. With the beginning of rigor mortis the vocal cords separate somewhat from the middle line, and as rigor mortis increases, the cleft of the glottis becomes wider. The width of the glottis within the cadaver is different from that in an excised larynx, even when an examination of the larynx is made immediately after it is removed from the cadaver. The vocal cords in the excised larynx are always in a position midway between the median position and the position of abduction. When rigor mortis has passed away the vocal cords occupy an intermediate position, but gradually approach nearer to the median line. There is no definite form of cadaveric glottis (Fein observed ten different positions of the vocal cords in the cadaver). The position, indeed, varies almost as much as the form of the glottis during life." As a substitute for the improper designation "cadaveric position," Fein suggests the term "intermediate position."

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Lecturer on Dermatology, Detroit College of Medicine.

Syphilis and Associated Affections.

In a paper entitled as above, presented at the Fourth International Congress of Dermatology and Syphilography, Paris, August, 1900 (*Journal of Cutaneous and Genito-Urinary Diseases*, February, 1901), L. Duncan Bulkley, A.M., M.D., physician to the New York Skin and Cancer Hospital, in his summary remarks, says that in erysipelas there seems to be an antibiosis (where one organism antagonizes another), as cases are recorded where erysipelas appeared to be curative to syphilis. The toxins of some other infectious diseases seem also to have some effect in arresting the progress of the syphilis in its early stages, but as their effects pass off the virus of syphilis asserts itself. Metabiosis (where one organism prepares or paves the way for the action of the other) seems to be indicated in malaria, where the depressing effect of the plasmodium appears to pave the way for and to render the subject peculiarly liable to severe symptoms in syphilis. Symbiosis (where two organisms existing together assist one another by their action) is illustrated by several infective diseases.

Tuberculosis flourishes with syphilis, and its bacilli have repeatedly been found in connection with syphilitic lesions, while clinically it has long been known that the concurrence of the two diseases is fraught with great danger.

Septic conditions also aggravate greatly both the primary and later manifestations of syphilis, and many observations are on record where the various pus-producing microorganisms have been found in connection with the lesions of syphilis.

It is a question worthy of consideration whether the unusual severity of certain cases of syphilis is not largely due to a mixed infection. Many cases are on record where peculiarly severe and suppurating syphilides have followed a gangrenous primary sore. This may in part also account for the severity of the disease following extragenital infection, especially when occurring on the fingers, as in surgeons, gynecologists, and others. Tuberculosis, of itself, has been shown to be a relatively mild disease, but aggravated immensely when combined with other pathogenic germs, as the streptococcus, pneumococcus, the bacillus of influenza, etc. In the same way syphilis often occurs as a very mild disease, while again it will present most severe and distressing symptoms and prove unusually rebellious to treatment. It is well worthy of study whether these cases do not owe their severity to a mixed infection.

Cutaneous Diseases Accompanying Diabetes in the Aged.

M. B. Hartzell, instructor in dermatology, University of Pennsylvania (*Journal of the American Medical Association*, Jan. 26, 1901), says that in elderly subjects and in the later stages of diabetes a severe form of acne (acne cachecticorum) may occur, due largely, no doubt, to the extreme malnutrition of the skin. In the same class of patients painful furuncles, occurring singly or, what is more common, in crops, and carbuncles, are common events; it is estimated that about one-third of all such affections are due to glycosuria. Carbuncle, besides being an extremely painful and exhausting affection, is often of very grave import, being in many cases the cause of the patient's death. The frequency of such local affections is probably due to the unusually favorable conditions offered by the sugar-saturated tissue for the growth of pyogenic microorganisms. In their clinical features these furuncles and carbuncles do not differ from similar lesions occurring in the non-diabetic; therefore their occurrence should always suggest the possibility of their glycosuric origin, and lead to an examination of the urine.

THE MEDICAL AGE

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ORIGINAL CONTRIBUTIONS.

DISEASES IN SCHOOLS, AND MEDICAL INSPECTION.*

BY E. V. SILVER, M.D., SALT LAKE CITY.

The life of a child at school should be harmonious with, and supplementary to, the life at home. Its growth in bodily vigor, in strength of character, and in intellectual attainments, should be as continuous at school as at home. Home and school are interdependent. Health and character are as important as the acquisition of knowledge, both in school and at home.

The preservation of the health of a child during the immature period of life is absolutely essential to its normal development in body and in mind.

A remark often heard by the busy practitioner, in almost every large city and in almost every home, is this: "My children were free from diseases until they began to attend school." From what I have seen in this and other cities I believe this "trite" saying is true. One thing is evident: there is a marked increase of contagious diseases among children while attending school. I have watched the reports handed me by our city health officers, and have been forced to acknowledge that the statement is true. In driving about the city, fewer flags are seen during the vacation period than during the school period.

Physicians attending solely to the diseases of children have stated that they believe seven eighths of the contagious diseases in children were contracted in school. I have often found, when called upon to attend some child suffering with some form of contagious disease, that in many cases a chiid in the next seat had previously been absent on account of some sickness, and have not been surprised to learn that that child had had the same disease and was absent but three or

*Read before the Utah State Medical Society.

four weeks. In one instance my patient told me that "the little girl's hands looked as though the skin was all coming off." In another family, where I found three children with whooping-cough, the mother told me that the "children of such and such a family had whooping cough, but were attending the same school daily."

The diseases that most frequently spread in schools are: diphtheria, scarlet fever, measles, whooping-cough, chicken-pox — and smallpox.

When one thinks of these diseases, he can hardly believe that a fully developed contagious disease could remain among forty or fifty children any length of time without being discovered. Yet this is so.

The period of incubation is so insidious, and an ambitious child so often conceals his ills, that children are often found in crowded class-rooms with a beginning diphtheria, a mild scarlet rash, or an innocent cough which rapidly develops into whooping-cough. Again, children are often seen with their throats tied up, and an examination frequently shows the diphtheria bacilli.

Scabies, ringworm, and pediculosis are frequently found in large city schools. There are three sources of danger from these cases:

1. Being in school during the inception and development of the disease.

2. Returning to school too early in the convalescence.

3. In attendance in school during a light and overlooked attack of contagious diseases. (The first and third might perhaps be thought of as one.)

It may be of interest to dwell for a moment upon the means of contagion in the public schools. Any one who has worked in schoolrooms must have been impressed with the fact that the children come into frequent and close personal contact, such as putting their faces together, blowing into each other's faces, examining slates and papers, and sitting close together.

Common means of contagion are these: kissing, exchanging handkerchiefs, ribbons, chewing-gum, whistles, slate- and lead-pencils, which are almost always, consciously or unconsciously, carried to the mouths. Coins also are treated in the same way. Drinking-cups by their common use often spread diseases. School-books are ready carriers of contagion. Then also may be mentioned the dangers from overcrowding the schoolrooms, which leads to the breathing of impure air and the dissemination of germs. Wraps which are not absolutely needed often hang where they dry and are aired in the schoolroom.

The foundation for many cases of pulmonary diseases and chronic invalidism can sometimes be traced to a badly ventilated schoolroom.

There are other affections to which schoolchildren are liable. These are due to conditions inseparable from the acts of study.

Myopia, due to imperfect light, poor type and paper, and malpositions assumed during the study hours.

I wish to dwell upon this defect for a few minutes. From the work in vision done in the Chicago schools, thirty per cent of the six-year-old pupils have been found to have defective vision, a percentage which rises to forty-two per cent at seven years of age. This remains unchanged up to twelve years of age, where it is thirty-six per cent. Then comes a sudden drop to twenty-three per cent at fourteen, with a return at sixteen to the previous general standard.

A very large percentage of our schoolchildren begin school life with optical defects. Teachers, physicians, and parents, and everybody interested in school work, should perfectly appreciate this fact, that a large majority of children are born with hypermetropic or astigmatic eyes. This may be the result of past abuses, handed down through successive generations. The emmetropic eye best suits the demands of modern school life. This condition is very rare. Eye-strain results from the former conditions, and we have blurred vision, red eyelids, photophobia, lacrimation, and other more serious conditions. Next to myopia, the most common school malady due directly to study (according to Delobel) is scoliosis. This deformity appears to be due entirely (aside from predisposition) to faulty attitudes. The desks and seats are often not adjustable to the size and height of each scholar.

Headache is very common in schoolchildren and is a school malady. It is due to strain put upon the eyes from faulty light, a bad position of the body in studying, or imperfect ventilation; also sometimes to mental strain.

Passive congestion of the thymus, due to faulty position, or ill-adjusted seat and desk, has been mentioned by Broca and others. Cardiac and gastric disorders, due to bad positions of the pupils, have been described by Motais. School attendance also produces a paretic state of bladder and bowel from sedentary routine. It is a well known fact that certain mimetic neurotic affections are produced by school attendance. These are hysteria, chorea, and even epilepsy itself. I never see a case of chorea without asking whether or not some child in school, sitting near-by, did not have the same trouble.

The defects seen in schoolchildren may be classed as follows: Those having their location in the central nervous system or the sensory or motor tracts. In kind these defects may be structural or functional, and may be developmental or acquired. The causes of

these defects are heredity, environment, nutrition, infection, climate, dwelling, discipline, or injury.

In the management of such cases the practical knowledge of both educator and physician must be brought to bear. They must work together and not separately. The school-teacher cannot fit glasses, remove adenoids, nor supply deficiencies in food, nor remove toxic influences. The physician can do much of this. To preserve the health of the child while in school, and to improve its environment, much has been done, but a great deal more yet remains to be done—not only in the country and suburban schools, but also in our splendid city schools.

I believe from my observations that the medical profession can accomplish the great work of building up a public sentiment which shall demand that our children sustain no damage to their health or check to their growth in character and knowledge during the plastic years of childhood, which are spent in the kindergarten, primary, grammar, and high schools of every large city or town in this country.

The world is beginning to realize that prophylaxis has become a most important department in the practice of modern medicine, and that the duty of the progressive physician is not less to prevent than to cure disease. Much disease spreads by contagion, by the association of sick and well; and wherever large numbers of persons, children especially, are associated, it should be considered necessary to subject them to regular and systematic examination.

Children especially are extremely susceptible to some forms of transmissible diseases, and schools have often become the active means of their spread. The practical outcome of the recognition of this fact is found in the employment, in many cities of America and Europe, of physicians for the purpose of inspecting schools as to light, air, heat, drainage, and the like, and also with regard to the presence of disease or even the suspicion thereof among the pupils, and following these with the necessary corrective measures. This is best done under the joint auspices of the board of health and board of education.

Medical Inspection.—The first trial of medical inspection of schools in this country was made in Boston in 1894, during an outbreak of diphtheria in a primary school. Out of fourteen cases, seven were discovered in absolutely unsuspected children. By thorough investigation and disinfection not a single case developed other than these. Out of 8965 children examined at another time, 1156 were found unfit to remain in school, 267 of them suffering from contagious and infectious diseases.

The public became so convinced of the great benefit of this medical inspection that all opposition was quickly removed. New York began similar school inspection in 1896, and on the first day 4255 pupils were examined by 147 physicians. Fourteen diphtheria, three measles, four chicken-pox, and fifty-five parasitic diseases were found.

Chicago began in 1898, followed by Minneapolis, Milwaukee, and Philadelphia, which latter city is reported to be very energetically taking hold of school hygiene, and has started a thorough daily inspection of all her public schools. This list of cities might be extended; would that it might soon include Salt Lake City! School hygiene is not merely avoidance of contagion by removal of infected scholars and the detection of children with defective eyesight and hearing. Both of these objects of school inspection are good; great benefit comes from removing pupils with contagious diseases from the schoolroom and from the necessity that defects of sight and hearing be corrected, for these are impediments to the proper performance of school duties. Every child on seeking admission to school should have his or her eyes and ears examined.

School hygiene goes further. We believe that the precautions against the spread of contagious diseases should consist in the systematic and persistent medical inspection of the pupils and teachers. Such inspection can be done more thoroughly at the schoolhouse, where the very first evidence of disease will be much more readily detected, than when the children are left to the supervision of parents, who know nothing of disease, as regards its etiology, or the application of the simplest principles of sanitation. The spread of disease is very seldom from an infected schoolhouse or schoolroom, but very often indeed from infected pupils and teachers—the latter, strange as it may appear, being very infrequently the subjects of medical inspection.

One physician lately reported a case where the teacher had contracted diphtheria in a mild form, and in using the saliva to erase the work from children's slates had conveyed the germs to their throats, resulting in the death of three pupils out of twenty-eight infected.

In Chicago it has lately been decided by the Board of Education that all applicants for appointments as teachers in the public schools must submit to a medical examination before coming up for their technical examination. A corps of women physicians has been appointed to examine all applicants for admission to the normal school.

There should be in this city, where there are some twelve thousand children attending public schools, a school medical supervisor or superintendent, with sufficient salary to enable him to give a part of his time to inspecting the schools; associated with him there should be a corps of salaried, or perhaps at first volunteer, assistants,

appointed to various parts of the city, whose duty it shall be to inspect school buildings, to trace sources of infection, to respond to calls of superintendents or teachers for the examination of suspicious cases, and to properly disinfect a schoolroom where there may have been a case of contagious disease discovered. Such a board would reduce to a minimum the spread of contagious diseases in our schools. They could also instruct the teachers in recognizing infectious diseases in the early stages. They could also see to the proper physical training of pupils, to the proper posture in sitting and writing, and thus remedy the ever-growing evil of stooping and protect pupils against acquiring round shoulders. They could also see to it that no child under the age of seven years is allowed in the primary department. Such medical inspection could see that children recently sick with contagious diseases did not return to school too soon. It may be asked, "When should I permit such children to return?" I believe a safe rule is as follows:

1. Diphtheria: four weeks from its inception, and one week in open air.

2 Scarlet fever: four weeks, and one week in open air.

3. Measles: two weeks, and one week in open air.

4 Whooping-cough: not until every vestige of cough has disappeared.

The medical inspector should also see that the school buildings are properly heated in winter. (The best method has been found to be the fan system, forcing hot air into the rooms.) The cellars should be inspected, to see that they are dry; the situation of the lavatories deserves their best attention, that they are not too close to the main building, and that the plumbing is safe; also that drinking-cups be safe from infection. Good ventilation must be insisted upon, and no overcrowding allowed. The desks and seats must be made adjustable to the size and height of the children. The situation of the windows at the left of the pupils and the color of the painting on the walls and ceiling must be such that sufficient light of the proper shade is available for each and every child. Blackboards, wall maps, and charts must be situated where they can be easily seen from all parts of the room. Books used by children with contagious diseases must be collected and disinfected, or better, destroyed, as also all slate- or lead-pencils and sponges and slates belonging to such children. Most of us have often been surprised as well as pleased to find mothers distinguishing between the light and more severe forms of diseases of their children. Why not have every teacher in the public schools acquire this training? A few clinical lessons added to the teacher's curriculum, and making this a part of her qualifications

necessary to secure a certificate, would be followed by beneficial results. A teacher would then be able to distinguish between a throat where disease lurks and a normal throat; could discern the flush of a fever or readily look with suspicion upon a scarlet rash; and would have her attention called to a cough which might lead to whooping-cough. She should be taught, not only the differential points, but also the means of contagion, and if necessary could give a little talk occasionally to the pupils on the subject. A teacher thus qualified could see each pupil at the beginning of the school day, and in a moment could discover any flushed cheek, dull eye, or any other evidence of disease, and could send the child home with a note requesting the attendance of the family physician. In Boston, the teacher looks each child over immediately upon the assembling of the schoolchildren. If any child is found ailing, word is sent to the mother, and a notice given to the medical examiner, who examines the pupil and directs whether the child should be sent home or not. During the first year, 16,790 pupils were thus examined; 2041 were sent home, and of these 453 had contagious diseases. It is a remarkable fact that since then the number of contagious diseases in Boston has suddenly diminished.

Should the schools be closed during epidemics? Probably not. We believe that the schools are unnecessarily closed when measles or any other diseases are raging. When the first case of disease is found in school, the rooms should be disinfected and all exposed children kept under observation for the proper period. Schoolchildren can be kept under much more careful observation in the schoolroom than outside of it.

With intelligent medical inspection of the school, the application of the principles of bacteriology when necessary, and the prompt quarantining of any child at the very first evidence of infection, there need be no more closing of schools, and epidemics will be checked at their very inception.

In every schoolroom of every large city school is found a number of pupils who are too backward, mentally, to keep up with their classes, or even drag along, and, in fact, whose very presence seems to retard the progress of the normal children. They cannot be called "feeble-minded," for they are not. For these children separate classes should be formed, the medical inspector seeing each child previously.

Before closing, it may be of interest to state a few facts recently found in the school medical inspection in Eastern cities.

As a result of his examination of 33,500 schoolchildren, in 1892, Dr. W. T. Porter, of St. Louis, concluded there is a physical basis of

precocity; that dull children are lighter and precocious children heavier than the average child; that mediocrity of mind is associated with mediocrity of physique. Christopher, of Chicago, in his recent extensive investigations concludes that superior intellectual capacity is generally associated with superior stature, and inferior intellectual capacity with inferior stature, the age being the same. The same investigator shows that girls exhibit less endurance than boys; that after the age of fourteen years the girls' endurance remains stationary, while the boys' increases at a rapid rate. He states that a child is at his or her best during the first morning hour; after ten o'clock his power decreases rapidly. Growth of memory is more rapid in girls than in boys; a child reaches his or her maximum memory power at an early age, generally speaking.

The growth of children degenerates as we go lower in the social scale. An examination of 50,000 schoolchildren showed a difference of five inches in stature between the best and the worst nurtured classes. It is not generally known that girls or boys from families where there are no other children are almost always below the average of health and vitality.

I wish to say in concluding that education in public or private schools should never be allowed to interfere with the health of a child. The present methods of instruction should be radically changed. Too much close work is required in school, and too much learning of lessons by dictation writing. The undue stress and strain put upon the growing child by a multiplicity of subjects and excessive length of lessons for study should be removed. Children cannot assimilate the ideas in widely differing departments of knowledge at one and the same time. The health and proper exercise and rest of a growing child should never be interfered with.

MUNICIPAL PREVENTION OF DISEASE.*

BY HEMAN SPAULDING, M.D., CHICAGO.

Municipal efforts to prevent contagious and infectious diseases are generally attempted through the enforcement of laws which have been enacted for their control. Such laws are desirable and necessary. Every municipal health officer should be invested with great discretionary powers, to be used when the more desirable methods of persuasion and education fail to protect the public against disease. He should have the power to enforce the prompt reporting of all

*Read before the Chicago Society of Internal Medicine, February, 1901.

infectious and contagious diseases by physicians and citizens. He should have the power to remove any person sick with an infectious or contagious disease to a place where there will be no danger of communicating the disease to others. He should have the power to enforce vaccination at all times. He should not be compelled to wait till an epidemic of smallpox is present before he is able to compel general vaccination. The municipal health officer should have at his command a well equipped isolation hospital for smallpox, one for diphtheria, one for scarlet fever, one for tuberculosis, and another for measles, and it would be well to have one for whooping-cough. There are other diseases that require an isolation hospital, but they so rarely visit this locality that we can omit them from consideration at this time.

The isolation hospital is necessary for those who have no means at home for the proper care and precautionary measures necessary to prevent the spread of contagion. Almost daily scarlet fever and diphtheria are found in families where other members of the family have no escape from the disease. If the sick ones could be promptly removed to a hospital the families and neighborhood could be protected from these diseases. An example of the efficacy of the removal and isolation of persons suffering with a communicable disease is found in our experience here in Chicago in suppressing smallpox. During the recent outbreak of smallpox throughout the country many persons afflicted with smallpox in all stages of the disease came to the city from various States and mingled with others before their presence was known to the health department. The prompt removal to the hospital of all persons afflicted with smallpox has enabled the department to keep the disease from gaining a permanent foothold in Chicago.

The other infectious diseases could be stamped out with even less difficulty if the same methods used for smallpox were pursued in cases where safety could not be secured in the home. Chicago has a well equipped hospital for smallpox. Is there not some way to secure isolation hospitals for the other contagious diseases? Until such hospitals are provided epidemics of scarlet fever, diphtheria, and measles are a certainty. The building ordinance of a large city should prevent the abominable and criminal practice of a family living in the rear of a store or shop of any kind. The partition between a store or shop and the living rooms should be substantially built and air-tight, and no communication with the store or shop should be allowed through this partition.

Scores of times I have found children sick with scarlet fever, diphtheria, or smallpox in the living rooms in the rear of a store or

shop where a flimsy board partition half-way up to the ceiling concealed the disease, that was carried to the front room and conveyed to the patrons of the store by the mother or father, who acted at once as nurse for the sick and clerk for the store. It often occurs that the fear of injuring business prevents the store- or shop-keeper from employing a physician, knowing that the doctor will report the case to the health department if he is called. The sale of milk should be prohibited from any store or shop that has any direct communication with living apartments. If there is any direct communication between a milk depot and the living rooms, the moment a contagious disease is found in the family the temptation to conceal the nature of the disease for business reasons is too much for the conscience of many of these dealers. A fight is waged with the doctor to call the disease sore throat, tonsillitis, or simple erythema, and the dealer sometimes succeeds in changing the name of the disease. This temptation and source of danger should be removed. It does not pay to sell milk from living apartments. In every instance where a family, in direct communication with a milk depot, has a contagious disease among its members, either the community is endangered by concealment of the nature of the disease, or if the truth is known and the public health protected, the man's business is greatly injured. Fruit for market should not be allowed to be kept in living apartments. I once took a man suffering with smallpox from a banana cart in a barn where fourteen fruit carts loaded with fruit were kept at night, to be pushed and peddled about the streets during the day. It is highly probable that smallpox, diphtheria, and scarlet fever can be and sometimes are distributed on fruit.

We must have proper and efficient laws as a basis for controlling communicable diseases, but the greatest factor in keeping contagious and infectious diseases out of a city is the education of the people as to the danger of contagion and how to destroy it and avoid communicating it to others. The people are eager to learn the truth from an authoritative source. If correct information is imparted in the right way, people will usually make good use of it.

In other words, most people would rather be right than wrong, and in the main will be right if the correct way is clearly pointed out to them. In recent years it has been the policy of the Department of Health to educate the people as to what is right and their duty in the matter of preventive measures in infectious diseases. I have frequently heard the present Commissioner of Health say: "If you try to force a man to do right before he knows what *is* right, you will arouse in him all that is combative, and he will oppose every effort put forth in his behalf. Teach him and convince him that what

you require is right, and he will join you in your efforts to prevent the spread of contagion." There is always some one or some influence, if you can find the man or the influence, that will induce every man to do what is legal and right. Seek for this leverage if you cannot yourself control the man. In the summer of 1899 seventy doctors volunteered their services to the Department of Health and were instructed to go from house to house in the thickly populated districts and instruct mothers in the best methods of feeding and caring for their children in hot weather. It was a surprise to these doctors to find that they were welcome in every house they visited, and so eager were the mothers for information coming from an authoritative source that they would leave their work and attentively listen to the instruction as long as the doctor would talk. The circular on "Hot Weather Care of Infants" carried by these doctors was eagerly sought after, eagerly read, and preserved with care.

What every large city needs is an intelligent, persistent, and authoritative distribution of correct information upon the subject of infectious and contagious diseases. If this information is freely and persistently given out the sum total of the knowledge upon this subject will be greatly enlarged even among the most ignorant, and it will be a perpetual aid in saving children from sickness and death.

Your president requested me to indicate in what way the general practitioner can assist the Department of Health. Since the Department of Health is engaged in the business of imparting instruction which will lead to the prevention of disease, it is plain that the medical men of the city, in close relation to all classes, can be and are the greatest factors in this educational work. Without the support and cooperation of the general practitioner the work of the Department of Health would avail little. The department recognizes the medical profession as the most potent of all educational influences in the prevention of disease. A physician will do good every time he impresses it upon a mother's mind that a child with a mild scarlet fever feeling well and running about one week after the beginning of the attack is a source of danger for five or six weeks and must not be allowed to mingle with others. It would seem that everybody ought to know so obvious a fact, but they do not. And incredible as it may seem, there are doctors who do not know that scarlet fever is infectious in the desquamating stage. I have had them tell me they did not know it.

Hundreds of cases of scarlet fever in the past two years can be traced to the want of correct information upon this point.

The general practitioner will do good every time he informs a family that scarlatina and scarlet fever are different names for the

same disease. Hundreds of people believe scarlatina to be a harmless, non-communicable disease. He will do good every time he teaches a family that varioloid is only another name for smallpox. There are many people who believe that varioloid is not contagious, though all have a pretty clear idea that smallpox is contagious.

I can give you instances where smallpox has been transmitted to others because of ignorance of the true nature of the term varioloid. Life can be saved by correcting the erroneous impression held by the laity that measles in a child is comparatively harmless. It is a crime to intentionally expose to measles a child under two years of age. The death-rate from this disease in children under two years of age is not less than twenty per cent of those attacked. The same is true of whooping-cough. In children under one year of age the death-rate in whooping-cough is at least twenty-five per cent of those attacked. It would seem that such information need not be given to this society, but when a teacher like Rhoe, in a modern text-book on hygiene, dismisses the subject of measles in one paragraph and says it is a trivial disease, especially in children, it can do no harm to mention this subject.

Let the medical profession continue to report promptly all cases of the diseases mentioned on the reporting card furnished by the department. This is a great aid, for a concealed case is liable to be a source of danger to some one.

The profession should continue to instruct the people in correct methods of caring for those suffering from infectious diseases, and continue to preach cleanliness everywhere. Every encouragement should be given to all efforts to make the dirty places in a city as clean as any other part of the city.

IMMUNITY AS A FACTOR IN PREVENTION OF DISEASE.*

BY ADOLPH GEHRMANN, M.D., CHICAGO.

In considering this portion of the subject of prevention of disease I have largely avoided reference to immunity as a curative agent. It is my intention to briefly present such facts as have value in an experimental or practical way toward proving the efficiency of certain methods in preventive medicine. Natural immunity does not deserve consideration here, because there can be no real prevention of a disease toward which a given species of animal is refractory. The production of artificial immunity in susceptible animals presents the facts that are of interest here.

*Read before the Chicago Society of Internal Medicine, February, 1901.

Outside of the practical application of vaccination against smallpox, the entire development of preventive inoculation began with Pasteur's studies of chicken cholera, anthrax, and hydrophobia. The aim of his research was essentially toward artificial immunization, while the German students evolved true curative methods. Such immunity as their methods have developed is passive in character.

Although in some cases there may be doubt, still apparently every infectious disease develops more or less resistance in the infected individual when he recovers. It would therefore appear that the strongest development of acquired immunity would be occasioned by an attack of the disease that is just short of killing the individual. For practical purposes such intentional infections as can be used must be controlled within safe limits. Theoretically preventive inoculations are most scientific, but they can only become practically permissible when the life of the susceptible being is beyond doubt assured. It is unreasonable to consider that acquired immunity has absolutely defined relations toward possible infection. It is always a matter of degree dependent upon some recognized factors, as age of the individual, his general vitality, and the severity of the immunizing experiment, as well as upon more remote factors, as chemical constitution of his tissues and the rapidity of metabolic changes. It is therefore almost impossible to say in any individual case what the results of preventive inoculation will be, as regards thorough protection and duration of the protective influence. A repetition of the experiment in times of exposure should have less danger attached than in the original inoculation. There is only one way in which to positively test immunity, and that is by an exposure to suitable virus.

As a further consideration it can be stated that active immunity is only preventive and should never be attempted for curative purposes; while passive immunity is both preventive and curative, with its greatest value as a curative agent. I have selected a few examples of the most reliable statistical evidence showing the general effect of methods of artificial immunization in the prevention of disease in susceptible animals and in man.

The following statistical evidence will give a brief review of the results of artificial immunity in the prevention of different diseases:

Cholera.—Haffkine summarizes the results of his method in the *British Medical Journal* of January 26, 1895:

	No. of persons.	Cases.	Deaths.	Per cent.
Not inoculated	1735	174	113	6.51
Inoculated	500	21	19	3.80

Anthrax.—Chamberland, in 1894, reported the inoculation of 1,788,677 cattle and 200,962 sheep since the introduction of inoculations.

	Before.	After.
Mortality, cattle	5o per cent.	.34 per cent.
sheep	10 per cent.	.94 per cent.

Saving estimated as 7,000,000 francs. Forty per cent of the cattle lose immunity after one year, which makes the repetition of the inoculations the chief objection.

Diphtheria.—Statistics of the Chicago Health Department show, in this relation, that among persons exposed to diphtheria and immunized during 1900 were 1293 immunized by the department administrators without a single case of the disease subsequently appearing among them. As far as treatment of diphtheria is concerned, during 1900 of cases bacterially verified there were 889 persons treated with antitoxin, with 832 recoveries and 57 deaths—a mortality rate of 6 47 per cent.

As regards the value of immunity in preventing a fatal termination the following is pertinent:

Day of disease when treated with antitoxin.	Under 1 year.		1 to 5 years.	
	Cases.	Died.	Cases.	Died.
First	[illegible]	..	2[illegible]	1
Second	8	..	85	[illegible]
Third	1[illegible]	2	1[illegible]0	[illegible]
Fourth	[illegible]	2	[illegible]8	12
Later	[illegible]	2	84	15
Total	41	[illegible]	3[illegible]2	32

Hydrophobia.—Pasteur Institute cases treated during the years 1886 to 1890:

Cases.	Deaths.	Mortality.
9433	5[illegible]	.61 per cent.

Bouley states that 66 per cent of unprotected dogs bitten develop rabies within two months.

Influenza.—Pfeiffer in 1892, and Bruschettini in 1893, reported immunizing rabbits by using filtered cultures, but could not develop any practical results.

Pleuropneumonia of Cattle.—Robcis reported in 1894 that inoculations were extensively practiced in South Africa, reducing the mortality from almost certain loss of exposed animals to twelve to fourteen per cent among inoculated cattle.

Pneumonia.—G. & F. Klemperer produced experimental immunity in rabbits in three days by intravenous, and in fourteen days by subcutaneous, injections, but the immunity lasted only a few months.

Smallpox (*Vaccination*).—Barry in 1887 reported English statistics as to smallpox among persons over ten years of age:

	Per cent.
Attack rate, those having two vaccinations	3.00
Attack rate, those having one vaccination	19.00
Attack rate, those not vaccinated	94.00
Death rate, those having two vaccinations	.08
Death rate, those having one vaccination	1.00
Death rate, those not vaccinated	51.00

Tetanus and Tuberculosis.—Positive results in treatment have been achieved, but nothing definite as to prevention.

Streptococcus.—Cobbett, in 1894, reported immunizing rabbits with filtered cultures, but such immunity disappears in a few weeks.

Symptomatic Anthrax.—Schuhanka summarizes his inoculations in France during 1887: Inoculated—2596 cattle once inoculated; 2472 cattle twice inoculated; no deaths occurred. Later, 2472 cattle twice inoculated, and 3561 unprotected animals, were placed together in an unprotected pasture, with the following results: Deaths among the former, 8—.32 per cent; deaths among the latter, 235—6.31 per cent.

Plague.—The India Plague Commission reported in 1900 that among the uninoculated ten to twenty-one deaths occurred; one death among the inoculated.

The Dharwar Hospital reported 38.13 per cent recoveries of unvaccinated; recoveries of those vaccinated twice, 81.25 per cent.

As to immunity in plague Calmette says: "It has been shown that antiplague serum causes immediate immunity, but it lasts only twelve to fourteen days. Haffkine's method gives a more durable immunity, but the method is inconvenient, as it causes pain and swelling at the point of inoculation for five or six days."

Typhoid.—Preventive inoculations in India by Dr. A. E. Wright are shown by the results of the treatment of 2000 soldiers living under the usual conditions. The most recent statement, made in May, 1900, shows that only six cases of typhoid developed among these troops, and one case alone was of a severe type. The general army statistics for India show an increase in admittance to hospital for typhoid as follows:

	Cases admitted.	Deaths.
In 1890 per 1000 soldiers	18.5	4.71
In 1897 per 1000 soldiers	32.4	9.01

This is a much higher ratio than among the troops inoculated against typhoid.

As to how far preventive inoculation can be carried in protecting an individual against a number of diseases must at present remain an open question. It would seem, however, more rational to limit the immunization of patients against bacterial diseases to such times as they are in danger of exposure or have been exposed. In the case of smallpox, however, the present method would seem to answer every requirement.

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THERE has been organized at Fort Wayne, Ind., an association known as the "Physicians' Guarantee Company." The object of this association is to defend any physician or surgeon sued for malpractice. It is organized with a capital of $100,000, and has a reserve fund of $50,000, and its officers are men well and favorably known for many years—men like Drs. A. P. Buchman and Miles F. Porter, for a long time teachers in the Fort Wayne College of Medicine. It was incorporated under a peculiar statute of Indiana, which provides for associations "for the purpose of aiding, indemnifying, and protecting the medical profession in scientific researches, and in the practice of medicine and surgery"—a statute totally different from that found in any other State, and amply covering all requirements of the company to operate in every State.

THE *London Hospital* of a recent date says: "The interesting report upon arsenic in beer, made to the Local Government Board by Dr. Buchanan, has now been published. His investigations establish beyond question the presence of a large proportion of arsenic in the sulphuric acid used in the preparation of glucose or brewery sugar. He expresses himself as satisfied by the steps taken by the trade to stop the circulation of harmful beer as soon as the mischief was discovered; and further, he is able to report that the tests now adopted would condemn beer containing as small a quantity as one part of arsenic in 1,500,000 parts of beer."

THE MEDICAL AGE.

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EDITORIAL ARTICLES.

A NEW PROGNOSTIC SIGN IN TYPHOID.

The discovery of a new prognostic sign in typhoid fever is something which the medical profession cannot despise, and more than usual interest therefore attaches itself to the recent researches of Waldvogel, which go to show that in the majority of cases of typhoid the congelation point of the serum is very much increased, and that if this elevation of the cryoscopic point does not occur, the particular case of typhoid fever will inevitably result in death. This is a fact which, if confirmed, would furnish us with a prognostic sign of the highest value. Waldvogel's conclusions are based upon researches conducted in twenty-four cases of typhoid fever. The normal congelation point of serum is 0.56. The highest points observed by Waldvogel were in two convalescents, 1.68 and 1.28; and the lowest congelation points in three cases, which died—0.65, 0.63, 0.54. The existence of the high congelation point in convalescents is deemed to be proof that it is not due to the state of the patient's temperature, nor is it due to respiratory changes, nor to inanition.

Waldvogel's first idea was that of incriminating the kidney, attributing these changes to retention uremia, but a special study proved that these patients were not uremic, and latent nephritis had nothing to do with the state of the blood. A more minute examination of the factors entering into the problem has convinced Waldvogel that this elevation of the congelation point can only be due to the presence in the blood of a typhoid antitoxin. If this be true, prognosis founded upon this relative congelation acquires a solid basis, the congelation point permitting us to appreciate the force of the resistance offered by the typhoid patient, and to tell whether the organism is manufacturing the antitoxin in sufficient quantity to neutralize the typhoid poison.

The conclusions which are the outcome of these researches are to the effect that there is always in typhoid patients an elevation of the cryoscopic point of the serum, and that this elevation is not due to a thickening of the blood by depletion of the water through diarrhea, nor is it due to retention of the chlorides, nor yet to renal insufficiency. Nevertheless, the nitrogenous substances are increased in the serum of the typhoid patient, and it is these new albuminoid substances in the serum which produce the elevation in its congelation point, without of necessity increasing its agglutinative power, as Waldvogel's observations go to demonstrate. He considers, therefore, that these substances are formed by antitoxins and possibly by special agglutinates. He draws the following conclusions from his researches:

1. That the elevation in the cryoscopic point of the serum is not attributable in all cases to uremia.

2. In typhoid fever the elevation of the cryoscopic point of the serum is related to the formation of antitoxins.

3. If in a given case of typhoid fever the cryoscopic point falls below normal and is situated in the neighborhood of 0.70, the prognosis becomes very grave.

EDITORIAL NOTES.

Antimalarial Philosophy.

The new learning in regard to the origin and dissemination of malaria will disparage many of the ancient preventives. Professor Celli, of Rome, in a recent summary of the matter, alludes to the influence of trees, such as the pine and eucalyptus, and dismisses their antimalarial powers by saying that trees afford shelter for the insects of the air and are a danger. Now that the rôle of the mosquito is thoroughly understood in the propagation of malaria, on the other hand, some herbaceous plants, mostly of the composite kind, and from which are prepared the so-called insecticide powders, are effective in killing larvæ in water and mosquitoes in the air, and it is suggested that these should be cultivated on a large scale; and it might be possible that a malarial swamp could, by this means, be made to free itself from the malaria by which it is infected. As a means of preventing infection being conveyed by malaria, the protection of the house by netting answers very well. For protecting the bodies of those who have to remain in the open air during the evening and night, it is found that soaps, pomades, and perfumes are of no use. Mechanical contrivances, such as veils and gloves, must be used. Celli seems to think that he has discovered some cases of immunity,

though he professes that he does not yet know the means by which this immunity is secured. He has found that the daily administration of half a gramme of eucanin makes a man capable of bearing with impunity the injection of a large quantity of very virulent malarial blood. There is no doubt that the vast interest awakened in malaria by the new doctrines of its origin will lead to very definite results in its prevention, and it may be reasonably expected that Italy will very shortly be entirely free from this scourge.

Extraordinary Fecundity.

One of the Italian journals has recently recorded an extraordinary case of fecundity of which it guarantees the authenticity. Flavia Granata, who it appears is well known at Rome, has recently given birth to her sixty-second child. This woman is now fifty-nine years old. She was married at twenty-eight years of age, and has successively given birth to a daughter, then six sons, then five sons, then four daughters, and then a long series of twins annually, and ended recently by having four sons. It is much to be regretted that this interesting woman did not marry earlier, as she thus lost ten precious years of her life, and so missed the distinction she might have enjoyed of being the mother of a hundred children.

Christian Scientists May Be Vaccinated.

Mrs. Eddy is improving. She now recommends the reporting of contagion, and rather than quarrel over vaccination, she recommends that if the law demands it, the individual submit, and then appeal to the gospel to save him from harm.

ITEMS AND NOTES.

INDIANA has passed a law excluding osteopaths from practicing.

THE German Congress of Surgery will meet in Berlin April 10 to 13.

THE Italian Congress of Pediatry will be convened at Florence October 15.

THE one hundred and fiftieth anniversary of the Pennsylvania Hospital will be held early in June.

THE semicentennial of the medical department of the University of Michigan was celebrated February 22.

THE American Dermatological Association will hold its next meeting in Chicago, May 30, 31, and June 1, 1901.

THE death of Dr. H. Schapiro, of St. Petersburg, is announced. He was the author of works on internal medicine.

THE announcement is made that the German government has established a quarantine against vessels from Cape Town.

A BILL has been introduced into the Michigan legislature to provide Detroit with a free hospital, to cost that city $100,000.

THE London County Council has appropriated and decided to spend $250,000 as a precautionary measure against the bubonic plague.

DR. F. R. PACKARD, of Philadelphia, has been made editor of the *American Journal of the Medical Sciences*, vice Dr. Alfred Stengel, resigned.

PROF. LEOPOLD WEISS, the well known ophthalmologist and extraordinary professor at the University of Heidelberg, is dead, aged fifty-two years.

THE new Platt Pavilion for the isolation and treatment of cases of contagious ophthalmia has just been opened at the New York Eye and Ear Infirmary.

Fifteen thousand dollars has been given anonymously to endow three beds in the children's ward of the Post-Graduate Medical School and Hospital of New York City.

An anonymous donation of $100,000 has been received by the Yale Medical School. The money will be used in building a laboratory of clinical medicine and surgery.

The Canadian department of Indian affairs is considering the advisability of training Indian girls at the industrial school at Brandon, Manitoba, in general nursing.

Dr. Walter Myers, of the Liverpool School of Tropical Medicine, who has been carrying out investigations of yellow fever, has fallen a victim to his scientific devotion.

The next congress of the alienists and neurologists of France and French-speaking countries will be held in August, 1901, at Limoges, under the presidency of Dr. Gilbert Ballet.

An ordinance was recently passed by the Council of Sioux City, Iowa, compelling the inoculation with antitoxin of all members of families in which there is a case of diphtheria.

The Hunter McGuire Memorial Association has raised about $4000. It is proposed to erect a monument to this distinguished surgeon in one of the public parks of Richmond, Va.

It has been estimated by the Health Department of Chicago that 4500 lives have been saved in that city during the last five years by the use of antitoxin in the treatment of diphtheria.

A new journal, entitled the *New York University Bulletin of the Medical Sciences*, will soon be issued. It will be edited under the auspices of the New York University Medical Society.

Dr. Daniel C. Gilman, president of the Johns Hopkins University, has resigned, the resignation to go into effect on September 1. Dr. Gilman has been connected with the university since its foundation twenty-five years ago.

Dr. J. D. Ross recently died at his home in Williamsburg, Pa., aged ninety-five years. Up to within a short time of his death he was in the active practice of his profession. He graduated from the University of Pennsylvania in 1832.

It is said that there is still standing in the island of Cos a tree under whose spreading boughs, tradition says, Hippocrates taught the art of healing nearly 2500 years ago. It is a plane tree; its leaves come out every spring, but the two largest branches have been shored up by pillars of brick.

In his annual report recently published, Provost Harrison, of the University of Pennsylvania, has announced a readjustment of the studies required of students for the degree of doctor of medicine, by which they may complete the course in arts or science and get the medical degree in seven years.

The Hunterian oration of the Hunterian Society was delivered by Mr. John Poland on February 13, 1901, at 8.30 P.M., in the London Institution. The subject was a retrospect of surgery during the past century. The annual dinner of the society has been postponed, says the *British Medical Journal*, to March 15, 1901.

At the International Congress on Tuberculosis which is to be held in London in July, an address will be delivered by Professor Robert Koch, on Tuesday, July 23; one by Professor Brouardel, dean of the medical faculty of the University of Paris, on Wednesday, July 24; and one by Professor McFadyean, principal of the Royal Veterinary College, London, on Thursday, July 25.

In the list of candidates for the post of interne of the Paris hospitals who have been successful in the recent examination there occurs the name of Mlle. Marthe Francillon-Rouville, who gained the fifty-second place among more than 600 competitors. This lady is, according to the *Progrès Médical*, the first French woman who has obtained the much-coveted title of interne des hôpitaux.

The Czar has ennobled Dr. Zambaco Pasha, of Constantinople, and at the same time conferred upon him the Grand Cross of the Order of St. Nicholas, with the title of Court Councillor. These distinctions have been bestowed on Zambaco Pasha in recognition of his great services to science. Zambaco Pasha is a foreign associate of the Paris Académie de Médecine and a member of the St. Petersburg Academy of Medicine.

A congress of marine hygiene will be held this summer at Ostend. An international exhibition of marine hygiene and appliances for the saving of life at sea will be held on the occasion under the auspices of the Communal Administration. The King of the Belgians has accepted the title of High Protector of the exhibition. Further information may be obtained from the general secretary, Rue des Soeurs Blanches, No. 18, Ostend.

From an official report recently published it appears that the total number of students in the University of Moscow at the end of 1900 was 4228, of whom 1140 belonged to the Faculty of Medicine. The teaching staff of the Faculty consists of forty-four professors, with a

number of privat-docenten, demonstrators, and prosectors. During 1900 the degree of doctor was conferred on ten, and the diploma of district medical officer on 200 candidates.

Dr. Robert Coltman, Jr., former surgeon to Li Hung Chang and professor in the Imperial University at Peking, passed through San Francisco recently on his way back to China from Chicago, where he has been spending a much-needed vacation. He has a claim against the Chinese government for $35,000. Three houses that were his property were leveled to the ground by the Boxers, and everything, with the exception of the clothes on his back, was confiscated by the rioters.

Again this week, says *The Lancet* correspondent in India, writing under date of January 24, there is an increase in the plague mortality. For the whole of India 3277 deaths are recorded, as against 2839 during the previous seven days. The increase is chiefly in Bengal and the city of Bombay. For the Bengal Presidency there were 2181 deaths, of which Patna recorded 1286 and Sarau 559. In Bombay city there were 370 deaths from plague, while the general mortality rose from 1192 to 1337.

The Spanish government has resolved to thoroughly enforce the regulations enacted in 1898, that no physician is allowed to practice unless he has inscribed his name as a member of the local medical society. Each town of more that 14,000 inhabitants must organize one of these societies or academies of medicine, to promote the moral and material interests of the profession and give advice on questions submitted by the national or municipal authorities or courts. The *Semaine Médicale* states that they are already organized in a large number of towns.

According to the *British Medical Journal* of February 9, the number of deaths from plague in the city of Bombay, from January 9 to 15, was 40, 45, 63, 45, 35, 43, and 51 respectively for each of those days, or 324, as compared with 222 during the preceding week. In the corresponding week of last year, the deaths from this disease numbered 428. The plague is found in nearly every district of the city. In Calcutta fifty to sixty cases occur weekly. The government of Madras has granted 150,000 rupees toward the expense of preventing plague. During the week ending January 15, in Mysore Province, the cases of plague numbered 419, a marked increase over preceding records. The mortality in Bombay city is now sufficient to justify the present being called the fifth epidemic of the disease since 1896.

NEW PUBLICATIONS.

HARE'S SYSTEM OF PRACTICAL THERAPEUTICS.

The scope of the present work includes placing in the hands of the practitioner a carefully prepared manual covering the entire field of medical and surgical therapeutics. The editor has incorporated within the volume the contributions of a large number of leading medical writers of the country. The contents of the first volume cover a wide range of subjects, from the general therapeutic considerations by Dr. H. C. Wood to the treatment of diabetes, tuberculosis, and syphilis. The articles are all concisely and clearly written, and the system of therapeutics is fully justified in its claim to represent with completeness the practical aspect of the therapeutic art as it exists to-day, and it should prove an efficient aid in medical practice.

A System of Practical Therapeutics. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia, etc. Second Edition, Revised and Largely Rewritten. Volume I: General Therapeutic Considerations, Prescription-writing, Remedial Measures Other than Drugs, Preventive Medicine, Diathetic Diseases and Diseases of Nutrition. With Illustrations. Philadelphia and New York: Lea Brothers & Co., 1901.

INTERNATIONAL CLINICS.

The new volume of International Clinics is an interesting one. Among the notable contributions may be mentioned one by Dr. Potain on the Use of Digitalis in Heart Disease; one on Recent Advances in Diagnosis, by Dr. James J. Walsh; and an excellent contribution by Professor Roncali, on the Rôle of the Blastomycetes or Ferments in the Etiology of Cancer. The usual number of excellent contributions are comprised in this number.

International Clinics. A Quarterly of Clinical Lectures and Especially Prepared Articles on Medicine, Neurology, Surgery, Therapeutics, Obstetrics, etc. By Leading Members of the Medical Profession Throughout the World. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, U. S. A., with the Collaboration of John B. Murphy, M.D., of Chicago, *et al.* With Regular Correspondents in Montreal, London, Paris, Leipsic, and Vienna. Volume IV. Tenth Series, 1901. Philadelphia: J. B. Lippincott Company, 1901.

DAVIS'S OBSTETRIC AND GYNECOLOGIC NURSING.

This is a manual of instruction in the various duties which fall to the obstetric and gynecologic nurse. It was originally prepared for the use of training schools, and it is therefore specially fitted for the purpose of imparting to nurses the necessary instruction in their duties. The work covers the whole field very thoroughly, and is amply illustrated by suitable engravings. A well arranged dietary is included in an appendix, and also a description on the preparation of surgical supplies. The work may be recommended to those for whom it was written.

Obstetric and Gynecologic Nursing. By Edward P. Davis, A.M., M.D. Illustrated. Philadelphia and London: W. B. Saunders & Co., 1901.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Foreign Body in the Right Bronchus.

Garel (*British Medical Journal*, March 2, 1901) records the following case: A child, aged eighteen months, put an iron nail 53 millimeters long into his mouth. He at once suffered from dyspnea and became cyanosed. He was held up by the heels and shaken, but the nail was not recovered, and was thought to have been swallowed, as the patient soon became comfortable. The stools were carefully examined for two months in vain. The child was then troubled with a constant cough, and became pale and thin. Harsh breathing and râles were heard over the right lung, especially at the apex, and a physician, to whom the accident was casually mentioned, diagnosed phthisis. By means of the Roentgen rays, however, the nail was clearly shown in the right bronchus. It was extracted through a tracheotomy wound without difficulty by means of an electromagnet, under a tension of four volts only. The child made a good recovery. Garel believes his success to have been due in great measure to the use of the magnet rather than to forceps. He would, he thinks, in a similar case in future attempt extraction without tracheotomy. By Kirstein's method—that is, forcibly extending the head and strongly depressing the tongue—a straight-tube speculum may be passed and illuminated by means of a small electric lamp. Thus all the larger bronchi may be directly brought into view. This method, however, is difficult in practice, carries with it a certain danger of asphyxia, and should not be attempted except in chronic cases. Without this the course of operation could be followed by Roentgen's fluorescent screen.

The Diagnosis of Primary Sarcoma of the Stomach.

W. S. Fenwick (*Lancet*, Feb. 16, 1901) says that so far as the recognition of the malignant nature of the disease is concerned the sarcomata do not offer any particular difficulty. The intractable character of the gastric symptoms, coupled with the progressive emaciation, physical debility, and cachexia, indicate a profound disturbance of the processes of digestion and assimilation, while the discovery of a growing tumor connected with the stomach, or of metastases in other viscera, demonstrates at once the existence of a neoplasm. A more

interesting question is the clinical differentiation of sarcoma and carcinoma. A diagnosis of round-cell sarcoma of the stomach may often be made by attention to the following facts: (1) The disease usually occurs before thirty-five years of age, so that the younger the patient the greater the probability that the malignant affection is sarcomatous in character. (2) In many cases there is slight but continuous pyrexia accompanied by rapid and profound anemia, while in carcinoma fever is always absent during the early stages of the complaint and the cachexia much more gradual in its development. (3) Simple enlargement of the spleen is by no means infrequent, but is never met with in cancer unless the organ is involved in the growth. (4) According to Kundrat the tonsils are apt to enlarge, and the follicles upon the sides of the tongue may become swollen or ulcerated. (5) Secondary deposits in the skin occur in a notable proportion of the cases and permit of excision and microscopical examination. It should be remembered, however, that sarcomatosis has been met with in true cancer of the stomach (Leube). (6) A large nodular tumor due to infiltration of the omentum, or a greatly enlarged liver with secondary growths in its substance, is rarely met with. (7) Persistent albuminuria is often observed in sarcoma, but is exceptional in cancer. (8) The discovery of pieces of morbid growth in the vomit renders the diagnosis certain (Riegel, Westphalen).

The spindle-cell and myo-sarcomata are chiefly characterized by their comparatively slow growth, the smooth, firm, and movable tumor, the frequent absence of pain, vomiting, and anorexia, and the tendency to repeated hemorrhage.

Pneumothorax Treated by Pleurotomy.

Galliard (*Medical Press*, Feb. 13, 1901) communicates the case of a woman, aged twenty-five, who without any morbid antecedents was seized with a violent pain in the side, cough, dyspnea, and sanguinolent expectoration. Carried to the hospital, the patient was found to have all the signs of pneumothorax localized to the base of the right lung (tympanism, amphoric souffle and cough, metallic bruit, etc.). The side was tapped with a Pravaz syringe, and the liquid drawn out contained pneumococci.

The state of the patient becoming alarming (cyanosis, suffocation, high temperature, etc.), pleurotomy was performed; no liquid issued from the wound, but a large quantity of fetid gas escaped. As a consequence of the operation the fever fell, the expectoration became less abundant and less fetid, but the local signs of pneumothorax persisted and extended over the whole side. However, improvement gradually set in, and two months afterward the patient was able to leave the hospital.

Resection of Stomach for Carcinoma.

Brooks (*Boston Medical and Surgical Journal*, Oct. 25, 1900) reports a case of removal of the greater part of the stomach for carcinoma, with closure of the pyloric end, and anastomosis between the jejunum and the cardiac end. The operation was performed on May 29, 1900; on September 1 he was able to take short walks. There were two sinuses, and unless they were tightly plugged with gauze bile and fluid escaped. He ate six meals daily, and had gained about fifteen pounds since he was first able to get out-of-doors. On September 15, however, he was suffering from phlebitis and had lost weight. He was over forty-four, and for two years had been subject to pain in the epigastrium, followed by flatulence and frequent vomiting. The resection was necessarily extensive, as the disease extended completely around the stomach from the pyloric end for a considerable distance toward the fundus.

Early Amputation for Diabetic Gangrene.

At a recent meeting of the Parisian Surgical Society M. Begouin (*Medical Press*, Feb. 20, 1901) read a paper on the advantages of early amputation in gangrene of diabetes. He said that French surgery was opposed to amputation in cases of gangrene of the extremities, witnessed in persons suffering from glycosuria. Some time ago, however, he had to treat a woman, aged fifty-four, who had suffered for six months from gangrene of the leg; the line of demarcation was situated at the middle third. The general condition of the patient was very unfavorable; the urine contained in the twenty-four hours four ounces of sugar. Amputation was performed, and the woman made an excellent recovery. M. Begouin concluded by saying that he was convinced that if the amputation were made at a certain distance above the line, and with rigorous antisepsis, it would save many patients that the classical expectation allowed to die.

Treatment of Acute and Chronic Lymph Nodes of the Neck.

H. H. Grant (*American Journal of Surgery and Gynecology*, February, 1901) says that the cause of tuberculous adenitis of the cervical region is almost always local, and takes place through the buccal cavity. The glandular manifestation, when it progresses, and especially when it is followed by suppuration, indicates a damaged and usually useless, often dangerous, gland. The removal of such a gland *in toto* and promptly is neither difficult nor dangerous, and is the treatment indicated. Nature will probably provide a new and equally perfect protection in the stead of the one that is lost. Multiple

enlarged glands indicate a constitutional tendency which will not be benefited by removal, except when local discomforts and dangers indicate it. Small groups or single slowly growing glands are subject to the same indication.

Recovery in a Case of Hydrocephalus.

Neumann (*Deut. Med. Woch.*, No. 3, 1901) reports a case of marked hydrocephalus in a child five months old. Its head at birth was small, and the great increase in size had taken place principally during the past three weeks. There was a clear history of syphilis, and the child was placed at once upon large doses of potassium iodide. In a few days great improvement was noticed, which continued for nine months, when the child was practically well. Neumann attributes his brilliant result to the fact that the case was seen so early, and that the hydrocephalus was entirely of syphilitic origin.

MEDICINE.

Convulsions with Scarlet Fever, and Their Treatment.

Every case of scarlet fever, says H. E. Hayd (*Medical Record*, Feb. 23, 1901), is a law unto itself.

Convulsions may occur and do occur when least expected.

The urine should be frequently examined; not only its specific gravity taken and albumin tested for, but urea calculations should be made often.

Mere specific gravity is not a sufficient indication as to the amount of urea eliminated, because the specific gravity may be fairly high, and yet urea can be retained in poisonous quantities; moreover, a large quantity of water can be voided and with a fair specific gravity, and yet convulsions may occur.

Albumin need not be present, or only a trace may be found in the urine, yet convulsions may occur.

Only the most digestible food and nourishment should be given, and if possible such foods as produce little gastric and intestinal putrefaction.

If milk cannot be digested or will not be taken, no food should be administered for days by the stomach; simply an abundance of water, and the patient nourished by nutrient enemata.

In any severe case of convulsions, only small amounts of nourishment, if given by the stomach, should be attempted at any one time, and frequent urea calculations should be made to see that the proper quota or equivalent of urea is eliminated; and if the urea is not

increased after the ingestion of the food, then the food must be withheld, or such food be substituted as will not interfere with the proper excretion of urea.

If gastric irritability exist, give the stomach and bowels rest. The amount of urea passed in twenty-four hours differs in different individuals, and it may roughly be stated that an excretion of ten grammes, or 150 grains, of urea for a child ten years old, weighing sixty pounds, will protect her from convulsions.

Hypodermoclysis is a very valuable and safe method to introduce water into the system, and as much as two or three pints can be used, and with proper precautions no danger will result or severe abscess formation follow.

Enteroclysis, or the introduction into the bowels of a number of quarts or even gallons of water, of a temperature ranging from tepid to that of 80°, if much fever be present, should be employed once or twice during the twenty-four hours.

Strychnine and digitalin are our most valuable heart stimulants, and brandy is our best food and diffusible stimulant.

RELATIONSHIP BETWEEN ANEMIC BLOOD AND THE BONE-MARROW.

Engel, of Berlin (*Münch. Med. Woch.*, No. 4, 1901), after examining the bone-marrow of a large number of anemic patients whose blood had been examined before death, divides the condition of the marrow into normal, insufficient, metaplastic, and aplastic. The normal bone-marrow in the epiphyses contains orthochromatic and polychromatic normoblasts. The blood has only one form of red blood-corpuscles, the normal orthochromatic erythrocytes.

In the insufficient bone-marrow, the size and shape of the normoblasts are the same as in normal bone-marrow, but sometimes the erythroblasts are increased, as in pernicious anemia when metaplastic cells are found in the marrow. The blood may be chlorotic, with the number of erythrocytes as normal and the hemoglobin diminished; an anemia with the number of erythrocytes decreased and the hemoglobin normal or decreased; or pathologic erythrocytes of normal size may pass into the blood, but such as remain normally in the marrow, viz., orthochromatic normoblasts, polychromatic normoblasts, and polychromatic erythrocytes.

In metaplastic marrow the yellow portion is entirely or partially red. Megaloblasts and metrocytes are found in the red marrow and in the blood of the heart and liver of the early embryonal state before any bone-marrow has developed. Therefore the cells of the metaplastic bone-marrow are identical with the blood cells of the premed-

ullary period of blood formation, and show all the transitions from orthocrhomatic normoblasts to megalocytes and megaloblasts. In the blood we find megaloblasts often and macrocytes regularly.

In the rare aplastic bone-marrow, neither nucleated red cells nor leucocytes are present. The red marrow of the epiphyses has become fatty marrow and ceases to be a blood-forming organ. In the blood there are no pathological cells, the erythrocytes diminish without being replaced by others, and the granulated leucocytes are absent.

A New Method of Determining Human Blood in Medicolegal Cases.

Dr. Uhlenhuth (*Deut. Med. Woch.*, No. 6, 1901) reports some interesting experiments. At intervals of six to eight days he injected about ten cubic centimeters of defibrinated ox blood into the peritoneal cavity of a rabbit. After the fifth injection he used the serum of the animal in the following tests: He took blood solutions of different kinds and strengths, filtered them when necessary, put two cubic centimeters of clear solution in small test-tubes, and added an equal amount of double strength saline solution (1.8 per cent). In this way he prepared absolute clear reddish blood solutions from oxen, horses, asses, hogs, rabbits, chickens, geese, pigeons, etc., and added to each of these six or eight drops of the serum of the injected rabbit. Rather quickly a marked cloudiness occurred in the ox-blood solutions, while all the others remained clear. The cloudiness became more intense, and finally settled to the bottom. Normal rabbit blood gave no cloudiness in the ox-blood solutions. He next injected human blood into a rabbit, and this serum would only give a cloudiness with human blood.

The blood of an ox, a man, and a horse, after having been dried on a board for four weeks, was dissolved in the saline solution, and each could be differentiated by these methods. The tests are very delicate and may prove of great value in medicolegal cases, if other investigators can confirm these experiments.

Hysterical Scapulalgia.

Morestin (*British Medical Journal*, Feb. 23, 1901) reports the case of a woman, aged twenty-nine, who had a slight fall on the right hand. The injury was so trivial that she was able to continue her work almost immediately, and no pain was felt until fifteen days later, when the shoulder became suddenly painful, and the arm fixed in a strong position of adduction. The pain was superficial, and limited to a band of about three fingersbreadth on the deltoid. The forearm

and hand could be readily moved. There was no evidence of dislocation, arthritis, or any lesion of the joint. The arm was kept rigidly and immovably fixed. The case was looked upon as an example of hysterical joint disease. Beyond the fact that the uvula, palate, and larynx were insensitive, there were no other hysterical symptoms. Under slight massage some momentary relaxation of the muscular spasm was observed. It was strongly "suggested" to the patient that the doctor could cure the complaint no matter how much the arm was displaced. She was then sent to sleep by means of bromide of ethyl, and on reawakening was told that everything was done, and that she could now use her arm, which she immediately proceeded to do. During sleep the joint was found to be perfectly normal and freely movable. Massage combined with autosuggestion sufficed to cure the condition.

Report on Yellow Fever by the Yellow Fever Commission of the Liverpool School of Tropical Medicine.

H. E. Durham and Walter Myers (*Lancet*, Feb. 23, 1901), in their report on yellow fever, say that sufficient search reveals the presence of a fine small bacillus in the organs of all fatal cases of yellow fever. In diameter the bacillus somewhat recalls that of the influenza bacillus. This bacillus is found in the kidneys, spleen, and in the mesenteric quarter of the axillary lymphatic glands. It is probable that this same bacillus has been met with, but not recognized, by other observers. It is probable that recognition has not been previously accorded to this bacillus by reason of the difficulty with which it takes up stains, especially methylene blue, and by reason of the difficulty of establishing growths on artificial media. The most successful staining reagent is carbol fuchsin diluted with five-per-cent phenol solution. Pure growths of these bacilli are not obtained in ordinary aerobic and anaerobic culture tubes. Pure cultures have been obtained by placing whole mesenteric glands under strict hydrogen atmosphere. Much search has been made for parasites of the nature of protozoa, but they have not been found.

The Bacterial Toxins.

Vaughan and Cooley (*Journal of the American Medical Association*, Feb. 23, 1901), from a series of experiments made by them, draw the following conclusions: (1) The colon bacillus in virulent form contains within the cell a toxin which is fatal to guinea-pigs of from 200 to 300 grammes weight, in quantities of less than one milligramme. (2) The aqueous extract of the cells of the colon bacillus grown on

agar is inert. (3) The entire germ is highly resistant to heat and to dilute acids and alkalies. (4) The cell wall of the colon bacillus is digested by the prolonged action of artificial gastric juice, which does not alter the toxin. (5) The toxin as thus obtained is insoluble, or but slightly soluble in dilute acid, but is slightly soluble in water and more readily in dilute alkalies. (6) This toxin responds to the ordinary proteid reactions. (7) The toxin, after being freed from the cell membrane, is not destroyed by being boiled.

Periodical Insanity.

Periodical insanity, according to A. R. Defendorf (*Philadelphia Medical Journal*, Feb. 16, 1901), is a mental disease characterized by a definite symptomatology, course, and outcome. In point of numbers it is one of the most prominent psychoses. The symptoms are sufficiently characterized to permit a differentiation from other forms of mental disease in the first attack, and allow the forecast of the whole course of the disease—*i.e.*, recurrence of attacks throughout the life of the individual, mostly of the character of the first; with lucid intervals of varying length from weeks to years, except in a very small percentage of cases; without a tendency to mental deterioration, except in cases where the attacks have been long, frequent, and severe, and even then it is of a light grade.

THERAPEUTICS.

Experiments to Explain Autointoxication and its Treatment.

Blum (*Virchow's Archiv f. Pathol. Anat.*, etc., Bd. 162, Heft 3), after experimenting upon a large number of dogs, seems to have obtained results which may greatly modify our ideas of the physiology of the thyroid gland. Of those animals that were fed exclusively upon meat before and after the thyroid was removed, ninety-six per cent died, mostly of tetany. The remaining four per cent seemed immune to the results of lost thyroid, and also to the toxins elaborated from the foods. In those animals fed exclusively upon milk for some time before and after the operation, only sixty per cent died. If after they remained healthy upon the milk diet for some time they were fed meat, they exhibited all the symptoms of thyreopriva; but if kept upon a diet of milk, bread, and meat, they remained perfectly well.

The author believes that a poison is formed in the gastrointestinal

tract from the meat. As a number of animals died upon milk diet he supposes that the same poison is formed as from meat, but that it is generally less. This poison is called "enterotoxin." However, he does not explain why sucking puppies always died after removal of the thyroid though their diet was exclusively milk. All the animals that survived did so apparently as a result of the formation of an antitoxic substance in their blood serum, for if the serum from them was injected into others suffering from thyroid cachexia, they were preserved for some time.

From these experiments it appears that the functions of the thyroid gland are to neutralize the toxins circulating in the body, and from them forms the thyreotoxalbumin which has an affinity for iodine. Under certain conditions the thyreotoxalbumin is itself toxic, though many animals are immune to it or have the power of becoming so, but do not possess an immunity to enterotoxin alone. Therefore the symptoms of thyreopriva are not due so much to autointoxication as to a saturation of the system with toxic substances formed in the intestines, and under these conditions the poisons may be diminished as much as possible by resorting to a milk diet.

The Therapeutics of Urotropin.

Dr. F. Suter (*British Medical Journal*, Feb. 23, 1901) reports on his experiences with urotropin, which was originally recommended by Nicolaier for vesical catarrh. It is an antiseptic compound produced by the action of formaldehyde on ammonia; it is easily soluble in water and ought to be taken on an empty stomach, as the acid reaction of the stomach decomposes it rapidly, when part is absorbed and part excreted in the urine. It slowly decomposes in the bladder only in urine of acid reaction, not in neutral or alkaline. It decomposes perhaps more rapidly in the kidneys, as it acts very promptly in cases of alkaline decomposition of the contents of the bladder. Five or ten milligrammes of formaldehyde have the same action on three ounces of urine as half a gramme of urotropin, and yet experiment and clinical use prove its antiseptic action even in the small doses. The action on different bacteria varies but little; bacilli coli communis and streptococci seem most resistant.

Dr. Suter made experiments with the following medicines administered at night, whilst the first urine passed in the morning was examined: Benzoic acid 10 grains, boric acid 15 grains, salol 15 grains and 40 grains, and urotropin 15 grains. The development of decomposition was retarded by several days only by the strong dose of salol and by urotropin. Its efficacy being thus proved, its high cost is to be regret-

ted, for this limits its exhibition. It is to be recommended in cases of surgical interference (even catheterism); in bacteriuria, especially after enteric fever, where it occurs in from twenty to thirty per cent of all cases; and in cystitis, as an aid to local treatment, which often is necessary. It is of little value in pyonephritis, gonorrheal cystitis, or tuberculosis of the kidney; it is no panacea for all cases of cystitis, but acts best in ammoniacal decomposition. It should also be used in disease of the prostate gland with residuary urine and cases of stricture with partial retention, where it is a decided improvement on salol. Doses of from 15 to 25 grains per diem can be given for weeks in succession. Such are Dr. Suter's conclusions.

Perchloride of Mercury Injections in Syphilis.

Hiller (*Berl. Klin.*, December, 1900) advocates this method of treatment. He uses the following formula: Hydrarg. perchlor. and sodii chloridi, of each 1.2 grammes in 189 cubic centimeters. Two cubic centimeters of this is injected daily for two weeks, with a day's interval after each six injections. In the third week two days' rest is given; in the fourth week injections are made on alternate days, and after this twice a week. As a rule thirty injections are enough, but sometimes forty or fifty are required. The injections are made into the gluteal muscles, care being taken to avoid the sciatic nerve. The pain in most cases is stated to be inconsiderable. The author pays special attention to disinfection of the skin before each injection, and uses successively the razor, soap and water, perchloride of mercury lotion, and alcohol. During the course of treatment the patient is advised to avoid severe exercise both of body and mind. Alcohol and tobacco are limited. The author does not advise the use of iodides in the secondary stage unless headache or bone and muscle pains occur. He claims that toxic and secondary effects are less liable to occur than with other methods of giving mercury. Stomatitis, neuritis, enteritis, and albuminuria are rare. When stomatitis is observed the dose is diminished to half or a quarter syringeful, and the mouth washed out five or six times a day with chlorate of potash lotion. In severe cases of stomatitis he recommends painting the gums several times a week with silver nitrate, ten-per-cent.

A Clinical Report on the Use of Chloretone as a Hypnotic.

A. A. Stevens (*New York Medical Journal*, Feb. 23, 1901) has, for the past six months, used chloretone in at least fifty cases in which sleeplessness was an important symptom. The best results were obtained in the insomnia which was unassociated with organic dis-

ease. In chronic heart disease, when the symptoms were not very severe, chloretone was very useful, but when anxiety, restlessness, dyspnea, and precordial distress were prominent symptoms, morphine hypodermically was a far more satisfactory remedy. In chronic nephritis it generally gave good results. In several cases of pneumonia with moderate fever, but without delirium, the results were unsatisfactory.

In view of the well marked anesthetic properties of chloretone when applied to a denuded surface, it was thought that the drug would be especially valuable in organic disease of the stomach, both by relieving pain and promoting sleep; but in several cases of gastric cancer, and in one case of gastric ulcer, the results were very disappointing, and morphine had to be substituted.

In no case did chloretone give rise to any untoward symptoms or to unpleasant after-effects. Nausea and vomiting were never excited by it. As a hypnotic its action is prompt, sleep usually following in from half an hour to two hours after its administration. The drug seems to have very little influence on the circulation; even in cases of chronic heart disease there was no evidence of a depressant action.

The writer says that it would appear that in chloretone we have a safe hypnotic of moderate power, which rarely gives rise to unpleasant after-effects, but of which a toleration is quite rapidly acquired; which is especially adapted for use in cases of insomnia unattended with pain, high fever, or pronounced nervous excitement.

The Pathogenesis and Treatment of Rickets.

E. Pritchard (*Archives of Pediatrics*, February, 1901) says that the symptoms of rickets are such as can be explained by the presence of an excess of lactic and similar acids in the system. Excess of lactic acid can be generated when the food supply (carbohydratic chiefly) is relatively excessive, or when the available oxygen is relatively deficient. Infants fed on excessive diets can develop symptoms of rickets, although no element necessary for metabolism is absent from the food. Such cases can be cured by reducing the food to normal proportions, without in any other way altering the treatment.

The treatment of rickets, both prophylactic and remedial, may chiefly be considered from the point of view of alimentation and hygiene. The food must be adapted to the physiological requirements of the infant, and each case considered on its own merits. The hygienic and alimentary treatment of rickets is so eminently satisfactory that recourse to drugs is seldom necessary, but phosphates, phosphorus, and cod-liver oil are medicaments of proved value.

The Treatment of Erysipelas by Ung. Credé.

Max Staller (*Medical Summary*, February, 1901) reports a case of erysipelas which was treated with ung. Credé. Ung. Credé contains fifteen per cent of soluble metallic silver. The adult dose for single inunction is between 40 and 50 grains, children 15 and 20 grains.

The treatment consisted of applying the ointment directly over the inflamed area with gentle friction for about twenty-five minutes till the skin became dark and the ointment was absorbed. Improvement was noticed within five to six hours.

The writer says that in fifty cases of scarlet fever which occurred in his practice, he used two drachms of ung. Credé to two ounces of ung. aqua rosæ to rub in the body, and in not a single instance did he ever find a trace of albumin.

OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,

Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

Bacteriology of the Conjunctival Sac and its Bearing upon Surgical Procedure.

P. Chalmers Jameson (*Annals of Ophthalmology*, January, 1901) says that the pyogenic or pus-producing organisms are found in the normal conjunctival secretion, although probably in attenuated form. Under normal conditions they do not propagate. The eye under normal conditions is bountifully supplied with means of antagonizing bacterial growth. Diminished resistance, such as occurs in inflammations of the membrane in operative interference, alters the nutritive nature of the secretion and probably converts it into a more suitable medium for germ life. The secretion of the eye is not an antiseptic in itself. Strong antiseptics in the conjunctival sac diminish the resistance and place the eye on a lower plane to resist germ invasion. Much attention should be given to washing out the residual bacteria prior to operation. As much care should be taken in regard to antiseptics and cleanliness in the external preparation of both patient and operator as is adopted by the general surgeon of modern times, for while the danger of suppuration is more remote, the result if it occurs is more disastrous.

Some Observations in Mastoid Operations.

The experience of Dr. Calhoun (*Journal of the American Medical Association*, Feb. 23, 1901) has led him to the conclusion that such

radical measures as the Stacke operation are seldom required, the disease yielding readily and satisfactorily to the less severe operative procedures; indeed, his records do not show in a single instance that it was needful to resort to the severer operations.

To recapitulate, his conclusions, based upon a large number of mastoid operations, are:

1. Infrequency of mastoid disease as compared with the large number of cases of suppurative otitis media.

2. Mild type of the disease, freedom from cerebral and other dangerous complications.

3. Comparative exemption of the negro race.

4. Presence of serious mastoid disease without marked outward symptoms, fever, etc.

5. Presence of mastoid disease without apparent middle-ear involvement.

6. Not every case requires radical operation.

Homatropine as a Cycloplegic.

Edward Jackson (*Annals of Ophthalmology*, January, 1901) claims that homatropine hydrobromate, properly used, is a reliable and satisfactory cycloplegic. It is quite as sure to produce complete cycloplegia in children as in those who have reached the age of forty years. The preferred method of applying it is in 2½- or three-per-cent solution, a small drop being placed at the upper corneal margin every five minutes until four to six drops, or rarely more, have been instilled. Care should be exercised to produce the least possible irritation by the instillations. Homatropine very rarely causes any noticeable symptoms of mydriatic intoxication, far more rarely than any other cycloplegic. The only common extra-ocular symptom is the bitter taste.

RHINOLOGY AND LARYNGOLOGY.

UNDER THE DIRECTION OF WADSWORTH WARREN, M.D.

Foreign Body in the Larynx; Intubation; Recovery.

At the present time there is some difference of opinion as to the treatment to be followed in the case of foreign bodies in the larynx in infants. Duplant, of Lyons (*Internat. Centralbl. für Laryngol.*, vol. xvii, No. 2), has reported a case, that of an infant one year old, in which a piece of chestnut shell was aspirated into the larynx. The attack of dyspnea which was produced immediately was relieved

through intubation, but returned each time when the tube was removed. Seventeen days after the accident the child coughed out the tube and the foreign body simultaneously. It is probable that the foreign body lodged in the ventricle of Morgagni, where it gave rise, whenever the tube was removed, to a fresh attack of dyspnea.

Duplant concludes with a comparison between tracheotomy and intubation in the case of foreign bodies in the respiratory tract. He thinks intubation should be employed if the foreign body is small, soft, and of smooth surface, and that tracheotomy should be employed if the foreign body is large in size, sharp or angular, or likely to swell from moisture. In such cases tracheotomy should be done as soon as possible.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Lecturer on Dermatology, Detroit College of Medicine.

Zittmann's Decoction in Malignant Syphilis.

In an article read before the Medical Society of the State of California, April, 1900 (reported in the *Journal of Genito-Urinary and Cutaneous Diseases*, March, 1901), Dr. Granville MacGowan, professor of genito-urinary surgery and syphilis in the medical department of the University of Southern California, says, in speaking of the use of Zittmann's decoction in malignant syphilis, that the following formula is the original, so reduced that it is just enough to last from six to ten days, according to the capability of the patient's stomach for receiving and disposing of it:

ZITTMANN'S DECOCTION.

Bruised sarsaparilla root	4 ounces.
Water	280 ounces.

(*Package No. 1.*)

Fennel seed	
Anise seed	āā 80 grains.
Licorice root, cut	
Senna leaves	āā ½ ounce.

Digest the sarsaparilla root in the water for twenty-four hours, then add package No. 1, and bring to a boil, while suspended in it in a linen bag is:

(*Package No. 2.*)

Powdered alum	
Powdered white sugar	āā 120 grains.
Calomel	80 grains.
Cinnabar	20 grains.

Boil gently until the quantity is reduced to a gallon, or a little less, then strain through a fine cloth, and put up in bottles that will hold a little more than a pint.

Label this Zittmann's Decoction No. 1. To the dregs of this decoction add the contents of package No. 3.

(*Package No. 3.*)

Cardamom seeds.....
Cinnamon bark.....
Licorice root.....ää 60 grains.

Pour in 280 ounces of boiling water, and cook to a gallon. Strain, and bottle as before.

Label: Decoction No. 2.

"In giving it I direct that both the stronger (No. 1) and the weaker (No. 2) be given each day—the first for its purgative and diaphoretic effect, the second for its diuretic properties. I pay no attention whatever to the troublesome, and to my mind silly, directions about the use of large quantities of hot water with the decoction. The dose of the stronger decoction is not very nice at any time, but the dislike to it, and the nausea it provokes, when given in large quantities, may be overcome if the individual is gradually accustomed to it.

"I direct that the patient shall have a light breakfast at 7 A.M., and at 9 A.M. he shall receive four ounces of the stronger decoction, as hot as he can drink it; this dose is increased one or two ounces each day until he is taking a pint, or as near a pint as he can take without vomiting. The dose will usually purge him, but not violently, from two to four times during the day. He stays in bed during the forenoon and sweats.

"He receives a light lunch at 12.30, and at 3.30, while in bed, takes from half a pint to a pint of the weaker decoction, cold.

"Later he gets an alcohol rub, and at 6 P.M. a good dinner, without any green vegetables or fruits. No mercury, or any other drug whatever that is intended to influence directly the course of the syphilis, is used while the decoction is given. Improvement need not be looked for immediately, but early in the second week of the treatment you will notice the listless eye become brighter, the clouded mind become clearer, the demand for food increase, ulcers begin to repair, and other skin lesions commence to disappear. In the fourth or fifth week your patient will be on the high road to recovery. The improvement of his condition does not establish a tolerance for the Zittmann; the better he grows the less he likes his dose. Presently, when the nails and ear lobes are pink, and the eye clear once more, you can return to mercurials for the completion of the cure."

Time of Onset of Cutaneous Symptoms in Congenital Syphilis.

In his handbook on Syphilis of Children, George Carpenter (London, 1900) says: "Of 364 cases of congenital syphilitic cutaneous

disorders within the first twelve months of life, 169 showed papulo-macular lesions of considerable extent. Of these, 87 were more or less general in their distribution, and 109 were confined to the lower extremities. During the first month there were 15 cases, the second 69, the third 58, the fourth 15, the fifth 15, the sixth 9, the three following months 3 each, the tenth month 4, and the twelfth 2." The writer has never seen an extensive maculopapular syphilide later than the twelfth month.

NEUROLOGY.

UNDER THE DIRECTION OF CHARLES W. HITCHCOCK, M.D., DETROIT, MICH., Attending Neurologist to Harper Hospital.

A Case of Wernicki's Conduction Aphasia, with Autopsy.

H. T. Pershing, in the July, 1900, number of the *Journal of Nervous and Mental Diseases*, reviews the history of this variety of aphasia, in which the lesion constitutes an interruption in the path connecting the auditory center for words and Broca's center, and reports an interesting case.

The lesion here is in symptoms produced very like that of the auditory center for words, save that word-deafness is absent. The writer does not regard this association as a direct one, but more probably as taking a curved course around the posterior end of the fissure of Sylvius, and the lesion as likely to be in the supramarginal gyrus.

The case reported was that of a man forty-five years old, who fell unconscious from his wagon. Consciousness returned within a week, but speech was a jargon. He improved some, using "yes" and "no" correctly, but uttering only a jargon on further attempts at expression. He could write his own name, but nothing else. He died ten weeks from the inception of the attack, and autopsy showed a single spot of softening immediately above the fissure of Sylvius and six centimeters posterior to the junction of its vertical and horizontal limbs. All the arteries seemed normal except one small one in the area of softening, which presented an obliterative endarteritis. The lesion was so situated as to interrupt communication between the first temporal and third frontal convolutions.

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ORIGINAL CONTRIBUTIONS.

FOOD ADULTERATION IN ITS RELATION TO THE PUBLIC HEALTH.

BY H. W. WILEY, M.D., PH.D., WASHINGTON, D. C.

The conservation of the public health is a duty which is not peculiar alone to the medical profession. While the world looks to those of us who have received medical training and have taken medical degrees for instruction in hygiene and the rules which should regulate life, the popular idea of the physician is rather one to whom appeal is made when the health is broken and disease has seized upon the vital organs. Nevertheless, in spite of this popular impression of the functions of a physician, the world is turning more and more to the physician for information on all subjects which pertain to health and longevity.

The desire to live to "a green old age" should also be accompanied by the effort to make this life as free from disease and suffering as possible. A prolongation of life which means simply the prolongation of an invalid's life is not one to be greatly desired. The economics of valetudinarianism are matters of some moment because the invalid is a burden, either to himself, to his friends, or to society at large. The ideal of life, the one which results in work accomplished and in progress achieved, is, other things being equal, a healthy life. I make this statement with a full knowledge that many great works have been accomplished by invalids. Sometimes it may even be said that sickness is the prime cause of great achievements, since it isolates the invalid from contact with the world, and enables him to concentrate his powers upon a single object. But sickness is not necessary to secure concentration of thought and purpose; these can be far better accomplished by the forces of will and the law of habit.

Among the many factors which have a great influence upon the

health of the individual there is none more potent than food. Eating is the chief industry of the human race. In this country there are about thirty million wage-earners, drawing about twenty-five million dollars a day. Of this vast sum fully three-fourths is applied to the purchase of food and its preparation. It seems to me therefore that a subject which monopolizes three-fourths of the energies of the human race is one which is well worthy of discussion, and especially among a body of physicians, who have banded themselves together not particularly for the curing of disease, but for the more beneficent purpose of conserving the public health.

Often even wholesome foods may be administered in such a way or in such excessive quantities as to injure the health of the consumer. If this be true, how much greater must the danger be if the food offered for consumption be changed in its nature, so as to become a positive poison, by the addition of foreign bodies? Perhaps there is no one evil now prevalent in this country, not even the intemperate use of alcoholic drinks, which is of more vital importance to the health of the people than adulteration.

Not long ago I stated, before the Senate Committee investigating the adulteration of foods, that all adulterations of human food might be comprised in three classes. The first I described as adulteration with bodies which are innocuous or harmless; the second, the addition of positively injurious bodies; and the third the abstraction of some valuable constituent from the food, and either leaving the food without this constituent altogether, or replacing it by one less valuable.

A distinguished gentleman, who followed me on the witness-stand, took exception to the classification I had made, saying that in his opinion there was no kind of adulteration which was not injurious to health, and that therefore the first class mentioned by me was just as objectionable as the other two. During the last few months I have thought a great deal on this point, and have almost come to the conclusion that my friend was right in his view. I will illustrate the classification, however, by pointing out a few well known adulterations of each of the three classes I have just mentioned.

It is well known that flour made from wheat has been largely adulterated in this country by the addition of purely starchy matter derived from Indian corn. Now I cannot regard starch as injurious to health, and hence the addition of a starchy body to the flour of wheat is in this sense not an injury. Physiological chemists, however, have discovered that there is a certain balance in the foods of man which should not be disturbed. In other words, there is a definite relation between the quantities of proteid, fat, and carbohydrate matters which, when sustained, renders this mixed food most nutri-

tious, and therefore most economical. Bread made from wheat flour, especially if it be made as nearly as possible from the whole grain, is recognized by physicians and physiologists as being practically a complete human food, with a certain definite ratio existing between the proteid matter which it contains and the fats and carbohydrates. It is evident at once that the addition of other starchy matter will disturb this ratio and thus render the food less economical, by increasing enormously one of its constituents without changing the quantities of the others. For the ordinary healthy stomach such a change in the food would be of no consequence whatever, but we can readily imagine cases where, with the disturbed digestion and imperfect secretion of the enzymes which produce fermentations characteristic of the digestive process, the increase in the amount of starch would produce a positive injury. We know that starch is digested first in the mouth by the action of the enzymes of a diastatic nature, secreted by the salivary glands. The slight alkalinity of the digestive fluid favors the action of the salivary enzymes. When the food reaches the stomach, in natural digestion, it becomes acid under the action of the hydrochloric acid secreted by the glands of the stomach. The enzymes of the peptic ferments are also secreted in large quantities and act rapidly upon the proteid matter of the food, converting it into peptone. This action is favored by a slight acidity. It is evident, therefore, if the digestion of the starch does not proceed under the most favorable conditions in the stomach, any excess of starchy food may interfere seriously with proteolysis. In other words, the amylolytic ferments and the proteolytic ferments do not reach their maximum activity in the same environment. The mixing of Indian corn starch, therefore, with wheat flour, while it is an adulteration of the first class, being the addition of a harmless or innocuous substance, may in the cases mentioned above become a positive injury to health.

Another illustration which may be cited is in the case of the glucose of commerce. Now, the glucose of commerce is a mixture of dextrose and dextrin with a small quantity of maltose, produced by the artificial hydrolysis of the starch under the influence of an acid. It is well known that the starch in foods must undergo a similar hydrolysis, under the action of the diastatic ferments of the digestive organisms, before it can be assimilated and act as a nutrient for the body. From this fact it might be inferred that a partial previous digestion of the starch, by an artificial hydrolysis such as is referred to above, might be of advantage. This, however, cannot be seriously admitted. It is a well established principle in physiology that the disuse of organs tends to produce atrophy and eventually functional

paralysis. Hence, if the starchy foods are replaced by artificially digested starch, the organs which produce the diastatic ferments to hydrolyze the starch are deprived of a part of their functions and must suffer from disuse. It is evident, therefore, from this point of view, that the use of predigested starch is to a certain extent prejudicial to the health of the digestive organs. Where the digestive ferments are deranged and the digestion of starch rendered difficult, the addition of predigested foods may be useful, but these should not be substituted for the natural foods, except on the recommendation of a competent physician. Again, there may be objections to the use of glucose from another point of view. This substance is, as is well known, largely used as an adulterant for honey and jelly. Honey owes its value to the peculiar flavor which it possesses, due to the aromatic substances derived from the flowers, and possibly to traces of formic acid obtained from the digestive organs of the bee. In other words, honey is not prized simply because it is a carbohydrate, but because of its flavor. Whenever, therefore, glucose is added to honey, by the substitution of it for the aromatic substance above mentioned, the peculiar flavor is destroyed and the honey is to that extent less desirable. So here is another instance in which the introduction of a perfectly harmless substance into food may render it positively injurious.

I will not multiply illustrations of this kind, but in general it may be predicated of all such adulterations, with harmless or innocuous substances, that they may be comprised within my first class.

When we come to the second class of adulterations there is less ground for dispute. Here I think no physician will fail to condemn the use of bodies in foods which are positively injurious. The excuse usually urged for the use of these bodies is that they are in such minute quantities that they cannot possibly be injurious This I readily grant is valid for healthy stomachs, of individuals who are in the prime of life and who are in the full possession of all their powers; but it can hardly be general in its application.

Adulterants of this class are best illustrated in the use of preservatives. For economical reasons foods are not always consumed on the spot where they are produced nor at the time of their production. Many foods are of a perishable nature, and if not consumed at the time of their maturity, are lost. To render these foods serviceable through the entire year, and in localities widely separated from the place of their origin, some method of conservation must be employed.

There are two methods of food preservation which are perfectly natural and permissible. One consists in the complete desiccation of the food so as to prevent the fermentation which produces decay.

The second method is to subject the food to a Pasteurizing or sterilizing temperature for a time sufficiently long to destroy the germs of fermentation. The foods thus Pasteurized or sterilized are prevented from coming into contact with the air, and thus by excluding the fermentative germs they can be preserved indefinitely. Both of these processes are to a certain extent troublesome and expensive, and hence dealers in foods have sought to accomplish the same result by a shorter and easier course, namely, the employment of certain chemicals which have the property of retarding, paralyzing, or destroying the activity of the fermentative germs. All food preservatives act essentially in the same way.

It is well known that there are a great many substances possessing neither taste nor odor which have this retarding action upon the fermentative germs. The addition of these bodies to foods secures their preservation and at the same time does not impair their flavor. Among the preservatives which have been commonly employed in this way may be mentioned sodium sulphite, boracic acid, borax, potassium nitrate, sodium chloride, sodium silico-fluoride, potassium fluoride, sulphurous acid, formaldehyde, salicylic acid, benzoic acid, abrastol, and saccharin. A glance at these substances will show that they are of two general kinds, those of an inorganic nature, which are mentioned first, beginning with sodium sulphite, and those of an organic nature, beginning with formaldehyde. I have omitted all preservatives which on account of odor or taste could not be conveniently used in the preservation of human foods.

It will be noticed that some of the bodies in the first class are of a condimental nature and therefore cannot be rigidly considered as food preservatives. We must not exclude from foods the condiments with which we are familiar. They are necessary and desirable, although being of themselves of little food value, and hence the use of any one of the bodies mentioned above, in a condimental sense, cannot be considered reprehensible. Those which are most commonly used as condiments are common salt and potassium nitrate, the latter, however, to a very limited extent.

In the second class the only one which is used in the condimental sense is saccharin, and that only as a rule in the case of persons suffering from diabetes, where the use of a carbohydrate in the food is deemed inadvisable, and where the patient craves a sweet taste in his food. In the case of this condiment I cannot speak favorably, since under any circumstances I consider its use highly injudicious and injurious.

In general it may be said that all decay of foods is due to germ action. I can easily remember the time when it was supposed that

the decay of organic matter was due to oxidation of the air, but since the time of Pasteur this idea is no longer entertained. The sole function of the addition of preservatives, therefore, is to paralyze or suspend the germ action and thus preserve the foods from decay. On the other hand, we should not forget that the process of digestion is essentially a fermentation from beginning to end. The splitting up of the organic food elements into simpler forms, which can be assimilated and utilized in the system, is due solely to the action of ferments belonging to the general class of enzymes.

The decay of foods is due to fermentative action, caused by organisms capable of reproducing their kind, and to the enzymes which are secreted by the living organ. The process of digestion in the alimentary canal is due almost solely to the latter cause, the action of the germs capable of self-reproduction being extremely limited, and even doubtful. It may be stated, however, that any substance which has the property of suspending or retarding the action of germs capable of reproduction has a similar action upon the enzymic ferments. Therefore it follows that when these substances which are added to preserve foods reach the alimentary canal, their paralyzing action will continue during the process of digestion. Hence this broad principle should be enunciated as being definitely established, that all substances which are capable of preserving foods have also the property, to a certain extent, of retarding the processes of digestion.

The question therefore arises, Should the use of preservatives in foods be absolutely prohibited? I for one do not believe in prohibition of any kind. To my mind every human being should be left absolutely free to choose for himself what he should eat and what he should drink. If my neighbor is fond of food preservatives, I for one have no desire to prohibit his indulgence therein. My duty, it seems to me, and that of every other teacher of hygiene, is to protect the innocent party who has no desire to eat adulterated foods. So far as I am concerned, therefore, and so far as the public health is concerned, it would be sufficient to permit the use of the least harmful preservatives, on the condition that the kind and amount of the preservative employed be marked in plain letters on every package containing it. When it comes to positively injurious preservatives, however, which even in minute quantities are injurious to health, then I too almost become a prohibitionist and would favor the restriction by national or State laws of the use of such substances in human foods.

It is claimed, for instance, by many competent hygienists and physiologists that a moderate use of borax or boracic acid in butter is of a condimental as well as of a preservative nature, and does not in any way tend to interfere with the process of digestion. Claims made

in this manner are worthy of consideration. It seems to me, therefore, that it is eminently proper that this body of physicians assembled in the interests of the public health should petition the Congress of the United States to enact one of the many pure food measures which have been brought to its attention into a national statute, and provide at the same time for the appointment of a commission, composed of physicians, physiologists, and chemists, to study the nature of all proposed food preservatives and to determine which, if any, should be permissible in human foods.

There is one other form of food adulteration to which the attention of this body should be called, and that is the artificial coloring of foods. Artificial colors are now used to a large extent in human foods, chiefly in butter and oleomargarine, canned meats, and preserved vegetables. Butter and oleomargarine were formerly colored yellow with turmeric. The introduction of the coal-tar dyes provided a cheaper coloring matter, and one of the azo-dyes, tropæolin, which gives a bright yellow color and at a smaller expense, has almost entirely replaced the vegetable coloring matter first mentioned. As a result of this use, turmeric has practically disappeared from the dairy and the synthetic yellow has taken its place. I would regard the use of coal-tar compounds as practically in the same category with the organic preservatives above mentioned. While I would not go so far as to prohibit the use of coloring matters in dairy products, I am sorry to say that their use is carried to such an extent as to excite apprehension. In many of our first-class hotels and restaurants the butter is colored a deep saffron tint, totally unlike the delicate light yellow tint which the best natural dairy butter possesses. To my mind the dairyman would do far better to regulate the food of his cows so that his butter would not require artificial coloring matter. In summer this can be easily accomplished by paying careful attention to the grazing of the animals, and in winter can be secured by feeding them root crops, especially beets and carrots, in sufficient proportions to give the proper color to the cream, and at the same time to increase the flow of milk and preserve the health of the animals. In so far as oleomargarine is concerned, it appears to be entitled to no color at all, but if color is desired it must be secured by some of the methods mentioned.

For the coloring of sausages and preserved meats the coal-tar products are chiefly employed. The following is a list of some of the colors which have been used: Bismarck brown, buffalo brown, double scarlet, fuchsin, and a red coloring mixture composed of common salt, sodium nitrate, borax, and carmine.

The addition of nitrate of soda and nitrate of potash to sausages

and meats tends to preserve and at the same time to intensify the red color of meat. I believe that potassium nitrate is uniformly employed by all packers of corned beef, so that it may be considered as a normal constituent thereof.

The green color of peas and beans and other green vegetables, which are preserved by sterilization, is fixed by the use of zinc and copper salts. These bodies act as a mordant, entering the tissues of the green plants and fixing the chlorophyll, by preventing its transformation into xanthophyll, which would otherwise occur on long keeping. Green peas which are Pasteurized without the addition of zinc or copper become yellow by the production of xanthophyll, while if zinc or copper salts be employed the green color is preserved indefinitely. It is well known that zinc and copper salts are not particularly wholesome, hence their use in preserved vegetables is to that extent reprehensible. How far we should sacrifice our esthetic ideas, as to what food should look like, to purity must be determined by each one for himself. It appears to me that it would be a sufficient protection to the public to require that every package of preserved vegetables containing copper and zinc salts should have that fact plainly marked upon the label.

Examples of food adulteration which arise from the extraction of some valuable ingredient from the food, and the substitution of a less valuable ingredient, are also very numerous. In the removal of cream from milk, inspection is so rigid as to practically prevent adulteration. The laws of most of our large cities require that the milk offered for sale shall contain not less than a certain quantity of fat; the minimum limit is usually three or three and one-half per cent. The content of fat in the milk from a Jersey herd of cows often reaches five per cent. It is thus seen that the thrifty dealer can remove two fifths of what the natural milk contains and yet sell his article in conformity with the statute. Nevertheless the removal of this amount of fat is in every sense of the word an adulteration, and should receive the same punishment as if it were extended until the limit fixed for the fat had been transgressed.

The use of skimmed milk in cheese-making with the addition of lard and cottonseed oil is another illustration. Such a product is known in the trade as "filled cheese." Another common substitution is that of cottonseed oil for olive oil, which has been practiced to an enormous extent in this country. This to my mind is a clear case of adulteration which is not injurious to health. I consider cottonseed oil perfectly wholesome, as much so as olive oil. The fraud in this instance is purely a monetary one, but the offense is just as great, and the punishment should be as severe.

From this brief summary of some of the methods of food adulterations it is clearly seen that the practice of frauds of this kind is usually more to be regarded from a monetary point of view than as prejudicial to the public health. Traffic in adulterated foods between the States and Territories should be regulated by an act of Congress, while the legal regulations for the commerce in and sale of these foods should be left to the boards of health of the various States. If national legislation could be brought to act in harmony with State legislation on this subject, a complete control of traffic in these foods could be instituted, which would be an ample protection of the public, both as far as its pocketbooks and health are concerned.

I will close with one word of warning. When a public audience hears a discussion on the subject of food adulteration it is likely to form wrong notions in regard to the extent of this evil. Exaggerated impressions are formed, and expression is often given to them. One would think from some of the articles which have appeared in the newspapers that it would be quite impossible to secure a pure food in any of the markets of the United States. Nothing could be more erroneous than this idea. Most of the foods which are offered on our markets are perfectly pure and wholesome. If one should go into one of our great cities to-day and purchase one hundred articles of food at random, perhaps less than five per cent of them would be found to be adulterated; but because the percentage of food adulteration is small there is no reason to minimize its evils.

The sole objects of food adulteration are to sell an inferior article at the price of a superior one, and to preserve a good article so that it can be sold after preservation at the same price or at a higher price than it would bring in its natural fresh state; and to secure this object reprehensible methods are employed.

I would not say or do anything that would make the price of the food higher for the working man or the poorer classes of this country. I am a thorough believer in the production of oleomargarine and the sale of it as such to those who desire to pay a less price than pure butter commands; and in like manner any one who prefers glucose to honey, simply because it is cheaper, should be allowed to gratify his taste. My plea is that foods should be sold everywhere for what they are, while the greatest liberty is granted in their manufacture and preservation compatible with the public health. Only where actual injury is done should prohibition be practiced, but up to this point a plain marking of the food containing preservatives or adulterants of any kind, under the proper operation of the State and national laws, would be entirely effective.

REMARKS ON CASE-TAKING AND METHODS OF DIAGNOSIS; LOCOMOTOR ATAXIA.*

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I am going to talk to you for a few minutes about the methods of case-taking and diagnosis. The most difficult problems you will have presented to you in the practice of medicine belong to the nervous system, because, as you will remember from your anatomical and physiological studies, it is the most complicated part of the organism of the body, and in proportion as it is complicated, so is it difficult to diagnose the diseases thereof. The diagnoses of cardiac diseases, pulmonary diseases, and the great bulk of diseases of the abdominal cavity, are comparatively easy, but when you come to the nervous system, on account of the complexity of its anatomy and the uncertainty of some of its physiology, surely the diagnosis of some of the diseases of the nervous system becomes difficult. The great majority of errors in diagnosis are made through superficial examinations. To illustrate this, I will say that a few days ago a patient came to my office from a neighboring town with symptoms that had been diagnosticated as the result of rheumatism. Physicians had prescribed for him accordingly, and for a year or more he had been treated for rheumatism. He was sent to me by a student of the college (Rush Medical), and I regret to say that I did not ask the patient the name of that student. However, this student made the diagnosis of locomotor ataxia. Now it was a credit to him to have made a diagnosis of this disease, because all of the classical symptoms of locomotor ataxia were not present, yet a sufficient number of them were present to verify his diagnosis. I want to urge upon you, from the first day you begin the practice of medicine, to be careful, thorough, and exact in your methods, and I am going to say a few words about methods of diagnosis.

You cannot make a medical history without having some sort of an outline, and that outline is largely a matter of evolution with me. The outline which is being used by the hospital staff is not the one that I employed twenty years ago. I scarcely ever have a set of blanks printed without making some changes, and I have no doubt if you were to consult the professors of your colleges, you will find that almost every one has his own outline for examinations. You need an outline that will enable you to get at all the facts in the case where it

*A clinical lecture delivered at Cook County Hospital.

is possible to obtain them. Let me emphasize the necessity of the examination being most thorough, and it cannot be thorough unless you carefully examine every part of the body that it is possible to investigate. You will find, when you begin to practice medicine, that some patients will come to your office and refuse to permit you to make a thorough examination of all parts of their bodies. Very rarely will you find a man who refuses it. Occasionally you will find a woman who objects to it, and if a woman objects to such an examination as I wish to make in her case, I do not continue the case. It is very essential to make a thorough, systematic examination, and personally I will not prescribe for a patient until I have done so.

The blank which is used by the hospital staff here and at these clinics is one that has been employed for several quarters in succession, and it contains, first, what I call preliminary facts. By preliminary facts I mean the name and address of the patient; the age is very important, also sex, and whether married or single. If married, how many children have been born? Has there been any miscarriage? If so, why? Were they intentional or accidental? The occupation should be given. You want to ascertain the symptoms for which the patient consults you, and it is well sometimes to have them narrate the symptoms in their own language. The next item would be the history of the present illness, how it began, and what was the supposed cause. As a rule, the supposed cause is not a very important feature, but sometimes it is of great importance. If you inquire carefully into the cause, you will every now and then get information of great value. Frequently you will elicit information of very little consequence. An alleged cause may be far from a scientific cause. We then consider the previous history, which is exceedingly important. We go back to early childhood and find out, if possible, all the ailments that the patient has had. This is important, in that it shows us the line of least resistance of the patient, his tendencies to disease. The next important point is the family history. We go back as far as it is possible; we cannot go back very far with many patients, because so few people know anything about their grandparents; they know about their father and mother, and perhaps that is as far as their knowledge will take them. We should know the age at which the parents died; the cause of death of any brothers or sisters; the sicknesses that may have prevailed in the family; the family peculiarities, etc. Then we come to the present condition of the patient and begin our examination. In the schema that is used by the hospital staff in the study of these cases we have physiognomy or facial expression, which is an important aid. In these days, when students of medicine have so many instruments of precision to assist them—the stethoscope,

pleximeter, ophthalmoscope, and a host of other scopes, with which you are familiar, and which are valuable additions to the science of medicine—diagnoses are made more easily than they were many years ago. I use these instruments and believe in them as aids in making diagnoses, but I fear that we have drifted away somewhat from those things which our forefathers in medicine regarded as of great importance: and one of them is physiognomy. You can tell a great deal about patients by studying their faces. The next item in the clinical examination is the condition of the psychical centers. You should find out about the emotional state of patients. You should test their reasoning power, consciousness, attention, and volition. These are important parts in an examination of the psychical centers. Next to the psychical centers we have in the schema the condition of the motor system, and we find mentioned convulsions, paralysis, and what is the condition of the reflexes.

Beginning at the foundation, we will run over the reflexes in the case we have before us. To make a reflex we must have sensory irritation, and this must be transmitted to the spinal cord through the posterior columns across to the cell bodies in the anterior cornua, and out by the anterior roots to the muscles. If you irritate a surface and elicit the proper muscular response, then you know that all of the anatomical evidences that are concerned in this reflex arc are in a state of normal nutrition. If there is a neuritis of the sensory nerve; if there is an inflammation of the posterior column; if there is an inflammation of the anterior cell bodies; if there is a neuritis of the motor nerves; if there is a destruction of the muscles; if there is a destruction of the skin, the end organs in the integument—any one of these things will result in a disturbance of that reflex arc. That is not all. These reflexes are under the control of the motor mechanism of the brain. The brain is inhibitory to reflex activity. A reflex act itself is a spinal cord act, pure and simple, but it is under the control of the cerebral centers, and this control reaches the mechanism of a reflex through the lateral column. If the lateral columns are diseased, so that the inhibitory impulse of the brain cannot reach the mechanism of the spinal cord, then the reflexes are again changed, this time in the way of exaggeration. Or, if the lateral column is intact, and the motor cell bodies in the cerebral cortex are destroyed, so that they cannot send out an inhibitory impulse, then again are the reflexes disordered; they are exaggerated. The reflexes may be exaggerated; there may be some slight interference with the function of the reflex arc on account of some destructive lesion somewhere in the reflex arc. Again, the reflexes may be lost.

These reflexes have been divided wisely into the superficial and

deep. Let us examine this patient and work out the various reflexes from below up. First, traveling from below upward is the toe phenomenon of Babinsky. The toe phenomenon may be of two kinds. The toe may respond to irritation by flexion, or it may respond to irritation by extension. When you irritate the sole of the foot in the manner that I do now with the point of a pencil, the toes may either flex, extend, or there may be no response whatever, as it is here. If the response is by flexion, that gives us valuable information. The response is only by flexion when there is some interference with the upper motor neuron. There are two motor neurons, the upper and lower. If the upper motor neuron is diseased, so that its control over the reflex arc is removed, then we elicit the Babinsky sign by extension.

Next to these reflexes is the Achilles reflex. When we strike the tendo Achillis, we usually get a prompt response. The response in this case is not very pronounced as compared with that observed in many cases.

The most important of the deep reflexes is the patellar tendon reflex, and this reflex is rarely absent. Quite an extensive series of observations have shown that there are two per cent of healthy people who have no patellar tendon reflex. This is an important point to bear in mind. Do not make a diagnosis of any serious disease simply because by tapping over the patellar tendon you get, as you see in this case, very little or no response. Do not be satisfied that there is no patellar tendon response even after you have tapped upon the bare tendon, as I have done here, until you have reenforced it. What is this patient doing at the present time? He is reenforcing the patellar tendon reflex. How is he doing it? By withdrawing completely the inhibitory influence of the brain; he is bringing his cerebral powers to bear with intensity. It means that the inhibitory control of the brain is withdrawn from the patellar tendon. In this case we have no patellar tendon response, even after reenforcement, so that we may safely say that the patellar tendon reflex is absent. This patient does not know whether he has ever had a patellar tendon reflex or not. This reflex may be lost because the quadriceps femoris has no muscular tissue with which to make contraction. Let us see if we can bring about contraction here by striking on the muscle. I think you can see quite a marked response there, and if you have doubt about it, test the quadriceps femoris muscle by electrical reaction, because you want to be sure that the quadriceps femoris is able to contract. If there is no contractile power in the muscle, as a matter of course there can be no patellar tendon response.

We will test the muscles by faradism; we do not need the galvanic

current for this purpose probably. I find there is a vigorous response in the quadriceps femoris muscle from the use of the current on both sides, so that there is no interference with the nutrition of the muscle. The patellar tendon reflex is not absent because of any muscular atrophy. There is muscular tissue here to make a response if the reflex arc were not interfered with. Of course, in this case, with the history we have thus far obtained, we are not absolutely justified in saying that the patient's patellar tendon reflex has been lost. We know it is absent, and whether it has been lost or not can only be determined by the associated symptoms; but in the great majority of cases the only possible exception is two instances in a hundred when you have reenforced the reflex as I have done in this case. When you have determined that the quadriceps femoris muscle is in a state of normal nutrition, your chances of error are small in saying that the patellar tendon reflex is lost.

We now come to the consideration of what is known as the cremasteric reflex, which is not of much value. It is determined by striking the inside of the thigh and getting testicular movements. An important point to remember in connection with the loss of patellar tendon reflex is the condition of the abdominal reflex. Let us see if we can find out the condition of the abdominal reflex in this patient. Please notice how very active the abdominal reflex is here. It is very much exaggerated, and when we apply our test it makes his entire body almost jump. You have to establish for yourselves a standard of reflex just as you will have to establish a standard of respiratory murmur. The most learned and eloquent medical teacher in the United States cannot tell you what a respiratory murmur is. I care not how brilliant and clear his descriptive powers may be, he cannot impart to you a correct idea of a respiratory murmur. The only way is to find out for yourselves. You must have a standard of respiratory murmur, a standard of reflex activity, and the only way to acquire those standards is by examinations of many cases. An interesting fact is that the patellar tendon reflex is lost, while the abdominal reflex is very much exaggerated. Fraenkel has taught us recently that when the patellar tendon reflex is lost the muscles are in a condition of hypotonus. Their tonicity is below par. In such a patient you can take the limb, as I am taking this patient's limb now, and without any difficulty place it at right angles to the body, without any evidence of tonicity or rigidity of the muscular tendons. You will observe that the limb goes up perfectly straight. If your limb or mine assumed an angle of about forty-five degrees, if we made an attempt to straighten it from this angle to the perpendicular, it would produce acute pain.

There are reflexes to be elicited higher up, the superficial reflex of the thorax, muscular reflexes, which are of importance, and it is a common thing to find the reflexes of the thoracic muscles very much exaggerated. I want to show you how these muscles respond to tapping on the left side. You see the muscular response very plainly. You see the same thing on the right side. Then, we have the reflexes of the upper extremity, as the elbow reflex, of which there does not seem to be very much in this case; and the wrist reflex, which is elicited by tapping over the forearm, producing extension of the fingers. This patient is short of a biceps reflex; we get no elbow reflex. There is some wrist reflex on the left side. This brings us to the facial reflexes, and in the first place, the jaw reflex. We elicit the jaw reflex by taking something like a roller and putting it over the teeth of the lower jaw, the mouth being partly open, and then, tapping on the roller, watch the jaw-jerk. There is no jaw-jerk here. Jaw-jerk is a rare reflex, it being pathological. It is most markedly present in amyotrophic lateral sclerosis. As to the pupilary reflex, it is elicited by irritating the skin of the neck on either side. This patient's eyes do not respond to irritation. Let us see if the eyes will respond to light, and for this purpose we should test each eye separately. We will cover one eye, and by means of this electric light close to him we will have him shut the other eye, open it quickly, and note any response. The left eye does not respond to light, neither does the right. Why not say that this man has an Argyll-Robertson pupil and be done with it? He may have had some time in his life an attack of iritis which has interfered with the muscular power of the iris. We will have him look at a window two or three hundred feet distant, and then have him look at my finger. We find that his eyes respond to accommodation, hence the muscular fibers of the iris are in a state of integrity, and we have the Argyll-Robertson pupil.

There is another reflex of great importance—the faucial. We will have the patient open his mouth and irritate his fauces, and you will see at once a prompt response. Faucial reflex is therefore present. This reflex is absent in ninety-five per cent of the cases of hysteria, consequently it is a valuable aid in its diagnosis. There is one other important reflex to which I desire to call your attention, and that is ankle clonus. We do not expect ankle clonus in a patient in whom there is no patellar tendon reflex. This man will have no ankle clonus, of course. We develop ankle clonus by placing the left hand under the calf muscle and, holding the limb well with the right hand, make forcible extension of the foot. If there is ankle clonus, we get the rapid vibratory movement I am now simulating. True ankle clonus will give us a continued movement of that part for

several seconds, but there is in many cases a spurious ankle clonus. When we take the foot and make this movement we will get one or two vibrations, and that is all. That is what is known as spurious ankle clonus. A genuine ankle clonus is due to the removal of the inhibitory control of the brain over the reflexes of the lower extremity, giving us a number of vibrations, say thirty, fifty, or a hundred; if we keep the limb in proper position long enough, it is difficult to exhaust the ankle clonus.

We have the visceral reflexes, those of the rectum and bladder. We will have to postpone further examination of the reflexes of this patient owing to our limited time. However, we will investigate the sensory symptoms in this man's case. He has sharp, peculiar hyperesthetic pains that come and go. They last but a short time. They are not particularly localized. They may be felt in the thigh one day and somewhere else the next. We find analgesia of the ulnar nerve on both the right and left sides. Let us see if there is any analgesia in the area of distribution of the ulnar nerve. I am now sticking the patient with a pin with considerable force, and I find that he has touch sense, but not pain sense, so we may say that there is analgesia in the area of distribution of the ulnar nerve. I am going to squeeze now with considerable vigor one of his testicles, and I find that there is analgesia also of the testicle. I have no doubt many of you have made a diagnosis of this case. It is one of progressive tabes dorsalis. Very great improvement has taken place in this man's condition by the use of the Fraenkel system of exercises. These exercises consist, first, of exercising in bed; for the lower extremities mainly standing exercises; exercises in locomotion.

The patient with locomotor ataxia was admitted to the hospital some five months ago in the paralytic stage, and with violent gastric crises. When he was first brought into the clinic room, we began the Fraenkel exercises, which consisted in exercising the patient in the recumbent posture, during which he made flexion, extension, abduction, and adduction of one foot and then the other, working the foot up and down in the manner I show you. These exercises are to be carried out regularly, rhythmically, and coordinately, if possible. Then the patient makes movements with the knee, such as flexion and extension of it, first of one and then the other. The next thing he raises the leg as a whole without making exaggerated movements. When the patient was admitted to the hospital it was impossible for him to do what he does now with his legs. He is able to raise himself up in bed without using his hands. Being in the hospital for several months, he has had the benefit of rest, and rest is the foundation of the treatment of progressive locomotor ataxia. All locomotor

ataxic patients should be required to take periodically a longer or shorter period of rest, depending largely upon their condition. While they are undergoing the rest cure they should have such internal medication as seems to be indicated. There is no evidence of a specific history in this case, and some cases of locomotor ataxia do not give us a specific history. Where there is any specific history I like to be sure of one good course of iodide of potassium. This man has had iodide of potassium, tonics, and alteratives, and the latter must be the constitutional treatment. You may give iodide of potassium in small doses, bichloride of mercury in small doses, also the chloride of gold and sodium. Those are the alteratives. The tonics consist of preparations of phosphate, and let me insist upon it with all the force that I am able to bring on this subject, that these patients must not have strychnine or nux vomica, which is practically the same thing. I have seen many of these cases sent down-hill with lightning speed by the administration of strychnine in anything like physiological doses.

This man has improved very much in his locomotion, in consequence of these exercises. (Here the patient repeated several of the Fraenkel exercises for the benefit of the students.) These Fraenkelinic exercises are indicated in the ataxic stage. It is your bounden duty, with such instruction as you receive here, to recognize these cases, after you begin to practice medicine, in the preataxic stage. You have no right with your present knowledge to permit a case of locomotor ataxia to get where this one has without beginning medical treatment. If you begin treatment in cases of locomotor ataxia in the preataxic stage, a few of them may be cured. In a number of them you will arrest the progress of the disease. They reach the ataxic stage with great slowness. If you are so unfortunate as to meet with a case in which errors in diagnosis have been made time and again in the stage that this man was, and resort to the use of these exercises and do what has been done for this man, who has so greatly improved in power of station and of locomotion, as well as in general health, you will do it by rest, alteratives, tonics, and the use of electricity. The electric brush is of great service, faradic electricity by means of the electric brush, and the patient can be taught to use the faradic current with the electric brush, and massage the surfaces. One other thing of great benefit is spinal cord stretching, suspension by Sayre's suspension apparatus, or simply stretching the spinal cord by manipulation, taking the limb in a state of extension and forcibly pressing it toward the trunk. That is done daily by this patient. It may be done two or three times a day, and it will be found of great service to these patients. Sayre's apparatus is much more efficient for this purpose, but it is not available in the majority of cases.

COD-LIVER OIL AND HOW TO GIVE IT.

BY A. N. BELL, M.D.,

Honorary President of the American Congress of Tuberculosis.

Genuine cod-liver oil is that which is obtained from the livers of *Gadus Morrhua*, found most abundantly in northern seas and particularly in the neighborhood of the Lofoten Islands, off the coast of Norway, and off the coasts of Newfoundland and Nova Scotia.

The colors of the three varieties of cod-liver oil recognized in commerce—brown, light brown, and light—are due to the different processes of extraction. The original and crude process was, and still is to a considerable extent, when the fish are caught near the land, to take them ashore and extract the oil at once. The livers are taken out and put into kettles partially filled with water, and boiled to a pultaceous mass. This is left to stand and cool, when the oil floating on the surface is skimmed off and bottled. If, however, the catching is auspicious, the time of procuring the oil is deferred: the livers are put into casks, and so kept for an indefinite period while they undergo more or less putrefaction, until the fishing-smack makes another voyage or two, when more livers are added. Then the whole mass is treated as described for the smaller and exclusively fresh lot.

By more recent and better methods the oil is extracted by the use of steam applied to the outside of the kettles containing the livers, without the addition of any water, allowing the oil to drain off as melted; or by forcing steam at high pressure through the mass of livers, thus tearing them to pieces and melting out the oil with greater facility and more exhaustively.

Evidently, these different processes, all more or less subject to variation, are sufficient to account for the different varieties of color from light straw to almost black, and of odor and taste quite as variable. On analysis, however, their composition is found to be almost identical. All, unless adulterated with the liver-oil of other fish, which is sometimes the case, contain oleic, margaric, butyric, acetic, fellic or cholic, billifilic, phosphoric, and sulphuric acids; glycerin, iodine, chlorine, traces of bromine, phosphorus, lime, magnesia, and soda; and two or three unnamed "peculiar substances."

The best cod-liver oil is that which is most agreeable to the senses; the clearest, the sweetest, and the most scentless—in short, that which is freest from evidences of dirt, added, or acquired as the result of insufficient care in the process of extraction, keeping, or as

the result of putrefaction. Moreover, as a test, when to pure cod-liver oil ammonia is added, there can be obtained by distillation a peculiar ammoniacal base, trimethylamin, which is characteristic.

All fat food when taken into the system tends to the promotion of fat in the body. Cod-liver oil not only shares this property in an eminent degree, but it possesses other properties besides. It promotes appetite and gives tone to the digestive organs; improves all of the chylopoietic functions, including the action of the liver; insomuch that, as the appetite and digestive functions are restored by its use, it creates a desire for an increase of the dose and for other food, even for more than the patient was accustomed to when in health. Muscular strength and activity are sensibly, and sometimes rapidly, increased, while an improved color of the lips and cheeks, and a fuller pulse at the wrist, indicate an increase in the volume and a better quality of the blood. Nevertheless, there is no gainsaying the fact that, at the outset, cod-liver oil is unpalatable, and to some persons extremely revolting; and to none more than to those afflicted with pulmonary consumption, among whom inability to digest fat food is frequently the most troublesome symptom. It is usually consequent upon previous poor diet. These individuals are afflicted with dyspepsia of the kind in which an acid condition of the stomach is predominant, as the common effect of the extensive or exclusive use of farinaceous food to such a degree in some cases as to create a loathing of fat food in every form. Investigation has shown that dyspepsia thus brought about is chiefly due to insufficiency or perverted action of the gastric juice, or neutralization of the pancreatic secretion. The remedies most relied upon for its relief are pepsin and pancreatin. Pepsin in the presence of an acid rapidly dissolves albuminoids, the retention of which in the stomach, under the conditions described, is sometimes very painful. The administration of pepsin ordinarily converts the digestive act from a painful to a painless process.

The use of pancreatin, however, as an adjuvant to cod-liver oil, is of much greater significance than pepsin; but it must be borne in mind that its relation to acids is the reverse of that of pepsin. The action of pancreatin is, if unprotected by an alkali, inhibited by acids; hence the peculiar utility of sodium bicarbonate in the formula of hydroleine. Pancreatin converts starch into sugar, dissolves albuminoids in an alkaline medium, and emulsifies fats so that minute particles can be easily absorbed by the intestine.

In the process of digestion, when the food in the stomach is partially disintegrated and dissolved, the more fluid portions pass through the partially relaxed pyloric ring, leaving the more solid and less

digested portions to be further acted upon and subsequently passed, after being sufficiently reduced. But when the food begins to pass out of the stomach a new activity is set up. The alkaline bile acts upon and neutralizes the acid from the stomach and makes the chyme alkaline; then the secretion of the pancreas comes into play. The starch that remains is rapidly converted into sugar; the solution of the albuminoids proceeds; the fat is emulsified, and the process of digestion is continued throughout.

Considering the properties, therapeutic value, and uses of cod-liver oil, the indigestion common to incipient tuberculosis, the difficulty of rendering cod-liver oil palatable and acceptable to the stomach under such conditions, and the process of digestion which should always be kept in view, as above briefly described, hydroleine, in my opinion, combines in an eminent degree pure cod-liver oil with such adjuvants as are best calculated to maintain its excellence, render it palatable and acceptable to the stomach, promotive of its favorable action in the treatment of tuberculosis and in cases of defective nutrition from other causes.

In a highly interesting communication to the London *Times*, a correspondent calls attention to the uncommon longevity of members of the Society of Friends. He says: "During the year ending in 1900, there were reported the deaths of 299 members of the Society of Friends in Great Britain and Ireland. The proportions were 159 males and 140 females. The average age at death was a little over sixty-one years and seven months. A table compiled from the returns shows that there is a very limited mortality of children, and that it is chiefly in this respect that the death-rate of the Society of Friends differs from that of the general population. Only 14 deaths out of the 299 were reported as those of children under five years of age; between five years and twenty years the number was 9; between twenty and thirty years the deaths were 16, and the same number was that of the deaths between thirty and forty years. From forty to fifty there were 24 deaths, and from sixty to seventy there were 62 deaths. From seventy to eighty the number was 57, and from eighty to ninety, 69. There were 8 deaths of Friends between ninety and one hundred years of age, and there were 2 deaths of persons over one hundred. One of the latter died at Croydon in her one hundred and first year, and others had passed one hundred and one years of age."

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

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EDITORIAL ARTICLES.

THE "HABIT OF GROWTH" IN TUMORS.

"Whatever the origin, therefore, of the tumor proper, however it is started, what makes the tumor is the assumption by the primary cells of that tumor of the habit of growth in place of the habit of work, and according to the extent of this replacement, so do we get the various grades of tumor formation from the most benign to the most malignant."

This is the law of tumor formation elaborated by Professor Adami in a recent address. He has reviewed all preexistent theories regarding the formation of tumors. He has shown that the parasitic theory is incapable of accounting for certain forms of tumor growth. He admits that there are infective granulomata due to bacteria and their products; that cyst formations are often of coccidial origin; and that cancerous formations may be due to the irritation of bilharzia ova. There are, however, certain tumor formations which can in no wise be accounted for by parasitic activity. These are the teratomata and decidua malignum. There are, therefore, two groups — one which may be caused by parasitic influence, and one which manifestly cannot be. In some cases the tumor may originate in cell "rests" or residual cells, and in others from the purposeless increase of cells in normal positions. Is there a common factor in the formation of these different tumors? If there is one Adami considers it cannot be the parasitic one, and he falls back upon the "habit of growth" as the only common factor.

It must be confessed Professor Adami's definition of this common cause would be more satisfactory if it were less general in its significance.

The cells continue to multiply, and do not assume other functions. There is continued anabolism but perverted catabolism. The "habit of growth" is the common inherited factor of cells; they do this if

they have nothing better to do. Cells that have this habit grow by themselves, provided they have sufficient nutrition. The matter in fact is contained in the statement that what makes the tumor grow is the substitution of the habit of growth for the habit of work, and according to the extent of this replacement arise the various grades of malignancy in tumors; the most malignant, of course, being those in which growth and not function is shown by the histological character of the cells.

Professor Adami's views are interesting, and he has perhaps shown that parasitic theories are inadequate to account for the intrinsic etiology of tumors. He has, however, suggested a view which may become prolific in suggestions of a new pathology, though not at present efficient in the actual creation of an adequate solution of the mystery which has always enveloped this field of research.

EDITORIAL NOTES.

Gold Cures for Alcoholism.

A speaker in a debate before the New York Academy of Medicine described the so called "gold cures" for the treatment of alcoholism as consisting of hypodermic injections of strychnine and atropine, the solution being of a golden color. After the treatment had been carried on along this line for some time, the patient was told to go and help himself to liquor in the presence of a physician, those who accepted this invitation to be subsequently subjected to the hypodermic injection of apomorphine, and when the patient subsequently vomited the liquor, he would be profoundly impressed and disposed to believe that after he had gone through the "gold cure" it would be impossible for him to "digest and retain liquor."

Insurance Against Malpractice Suits.

The medical profession will hail with pleasure the advent of the insurance company into the vexed field of medical malpractice litigation. There are now strong companies that offer for a small sum to defend and defray damages in suits which may be brought against the insured. Of course the risk is a profitable one for insurance companies to write, but then that is all right. Nearly all suits against physicians are unsuccessful, and fifty per cent of them are blackmail suits that would never be brought did the litigant know that a strong company would assume the defense. This new enterprise should certainly commend itself to doctors.

ITEMS AND NOTES.

TYPHOID FEVER is epidemic in Rock Island, Illinois.

SWEDEN is suffering from a severe epidemic of influenza.

DR. S. WEIR MITCHELL leaves shortly for a trip to Japan.

THERE are at present one thousand cases of smallpox in the State of Kansas.

AN isolation hospital, to cost about $3000, is to be erected in Springfield, Ill.

EIGHTEEN doctors have been elected members of the new Dominion Parliament.

MICHAEL REESE HOSPITAL, Chicago, was recently damaged by fire to the extent of $2000.

COUNT TOLSTOI, the great Russian novelist, is reported to be suffering from Bright's disease.

THE progress of the bubonic plague causes deep anxiety and apprehension in Cape Town.

THE Indiana Senate has proposed a bill for the physical examination of all parties contemplating matrimony.

A STATE sanatorium for consumptives will probably be erected in some part of Massachusetts in the near future.

A MAGNETIC HEALER of Moline, Ill., was recently fined $100 and costs for practicing medicine without a license.

DR. HEINRICH STERN has been elected professor of internal medicine in the New York School of Clinical Medicine.

ACCORDING to the annual report of the Indian government, snakebites caused nearly 25,000 deaths in India last year.

DR. SCHENK has recently published a book entitled: "A Compendium for Determining the Sex of an Unborn Child."

THE outbreak of smallpox in Scotland continues to spread and occasions grave concern to the health authorities.

STEPS are being taken to bring about the amalgamation of Trinity Medical College, Toronto, and Toronto Medical College.

PROFESSOR OSTROUMOFF, of Moscow, retires this year from his connection with the medical faculty after forty years of service.

THE Woman's Medical College of Baltimore celebrated the twentieth anniversary of its founding February 22, at the college building.

THE forty-sixth annual session of the Kentucky State Medical Society will be held in the city of Louisville, Ky., May 22, 23, and 24, 1901.

A MEMORIAL HOSPITAL at Cairo to Queen Victoria will soon be erected. Already subscriptions have reached a total of nearly $50,000.

DR. FRANCIS DELAFIELD will give up the chair of the practice of medicine in the College of Physicians and Surgeons, New York, on June 1.

THE nurse in Bellevue Hospital who was charged with having been responsible for the death of one of the insane inmates has been acquitted.

RECENTLY fire destroyed the college of medicine and the literary department buildings of the University of Iowa. The loss is estimated at $250,000.

SIR JAMES REID, Bart., K.C.B., has been appointed a Knight Grand Cross of the Royal Victorian Order, in recognition of his services to her late majesty.

A VACCINATION crusade has been started in Montreal in order to protect the city from the introduction of smallpox from surrounding centers of infection.

THE Indiana Medical College, Indiana, is to have a new building four stories in height, thoroughly equipped, heated by steam, and lighted by electricity.

THE German Hospital of San Francisco has invited architects to present competitive designs for the new hospital building, on which $250,000 is to be expended.

THE Pennsylvania legislature has been asked for an appropriation of $60,000 for the establishment of free homes for consumptives in the mountains near White Haven.

DR. HENRY JELLETT, ex-assistant master of Rotunda Hospital, Dublin, has been appointed editor of the *Medical Press and Circular*, to succeed the late Dr. Archibald Jacob.

THE English House of Lords has passed a bill that provides special penalties for habitual drunkenness, and also provides that habitual drunkenness shall be treated as persistent cruelty and entitle a wife to divorce.

THE French Ophthalmological Society will hold its eighteenth annual meeting this year in Paris on May 6. The subject proposed for discussion is the value of iridectomy in glaucoma, to be introduced by M. de Wecker.

DR. HERRICK, of Grand Rapids, Michigan, was recently sued by a woman because he allowed medical students to witness an operation performed upon her. The plaintiff has been awarded $75 damages by a circuit court jury.

DR. CHRISTIAN FENGER, on account of distinguished service rendered in the United States and abroad, has been made a Knight of Dannebrog by King Christian of Denmark, and has received the cross of that order.

A NEW edition of the volume entitled "Gnats and Mosquitoes," by Lieutenant-Colonel Giles, of the Indian Medical Staff, is expected to be ready in May or June, the entire first edition of the work having already been exhausted.

MRS. PALMER, widow of Dr. A. B. Palmer, who was professor in the medical department of the University of Michigan from 1852 up to the time of his death, fifteen years ago, died on March 8. By the terms of her will she leaves $85,000 to the university.

THE sum of $1,000,000 has been donated to the Dunham Medical College of Du Bois, Pa., by John Du Bois. The officials of the college say that the gift comes as a thank-offering for benefits received by his wife in treatment by members of the college.

THE Lutheran Hospital, of St. Louis, containing twenty rooms for private patients, a modern operating-room, diet kitchens, and dining-rooms for nurses, recently opened its new addition. It has been furnished by various organizations connected with the Lutheran churches of that city.

THE commission selected by Secretary Gage to investigate the plague situation in San Francisco in behalf of the government has returned to Washington, but their report has not yet been published. The commissioners are Prof. F. G. Nery, Prof. Simon Flexner of the University of Pennsylvania, and Prof. L. T. Barker.

Drunkenness, says the *Medical Record*, has always prevailed in India among certain classes, but as a nation the people have been temperate for many centuries. It is deeply to be regretted that of late years drinking habits have been acquired by some educated Hindus, whose forefathers never touched intoxicating liquors. This is largely attributable to European example. The British government revenue from the sale ot toddy, opium, bhang, etc , is immense.

It appears that in Paris motor cars will shortly take the place of the ambulances now in use. For some months past the military authorities have used the tramways for the transport of sick soldiers from barracks to the Val-de-Grace. The Public Assistance and the Prefecture of the Seine at first thought of following this example, but the scheme was open to the obvious objection that the patients to be taken to hospital do not always live in streets where there are tramway lines. They then conceived the idea of using automobiles.

Dr. Mitchell King, who recently died in Charleston, S. C., aged eighty-six years, was, according to the *Philadelphia Medical Record*, a fellow student of Bismarck, at the University of Göttingen, together with two Americans, John Lathrop Motley and Amory Coffin, of South Carolina. The three Americans ate a Fourth of July dinner at Göttingen in 1832, with Bismarck as their guest. Bismarck said that Germany would be united in thirty years. Coffin disagreed with him, and a bet was made of a bottle of champagne, which the loser was to carry to the country of the winner and drink with him. Bismarck lost, but as civil war was raging at the time, the whereabouts of Coffin could not be determined.

Dr. John S. Marshall, of Chicago, president of the Examining Board of Dental Surgeons, U. S. Army, announces that candidates for appointment as dental surgeons in the army will be examined in the following named branches: Anatomy, physiology, histology, physics, chemistry, metallurgy, dental anatomy and physiology, dental materia medica and therapeutics, dental pathology and bacteriology, arthodontia, oral surgery, theoretical operative dentistry, theoretical prosthetic dentistry, practical and operative, and practical prosthetic dentistry. An average of seventy-five per cent will be required in each subject for theoretical examination, and eighty-five per cent in the practical examinations.

Congress, at its last session, appropriated $35,000 for the erection of the necessary buildings and quarters for a laboratory for the investigation of infectious and contagious diseases, and matters pertaining to the public health, under the direction of the surgeon-general of the

U. S. Marine Hospital Service; and authorized the secretary of the navy to transfer to the secretary of the treasury five acres of the old Naval Observatory grounds, for use as a site for the laboratory. The same bill contained appropriations of $50,000 for a boarding vessel at Reedy Island, Del., and $40,000 for a boarding vessel at Port Townsend, Wash., quarantine stations; and $29,500 for improvements at Delaware Breakwater, Cape Fear, Savannah, Columbia River, and Reedy Island quarantine stations.

ACCORDING to the *New York Medical Journal*, Assemblyman Babcock has introduced a bill at Albany which provides that no person shall practice hypnotism, mesmerism, suggestive therapeutics, and allied phenomena after May 1, unless previously registered and legally authorized, or unless authorized by the regents. No one can practice who has been convicted of a felony. A fee of $50 is to be charged. The following requirements for admission to practice are demanded: A general education; has studied medicine in a medical school for at least two full school years; any one practicing who is not authorized to do so, or who advertises in any newspaper, circular, or any advertising medium that they are competent and authorized to practice or teach these arts, shall be guilty of a misdemeanor, and punishable by a fine of not more than $250 or imprisonment for six months for the first offense; any one who practices under an assumed name shall be guilty of a felony.

ACCORDING to the *Philadelphia Medical Journal*, the extent of leprosy in Canada is shown by the last annual report of the Minister of Agriculture. In this appears a subreport from Dr. A. C. Smith, the medical superintendent of the Lazaretto at Tracadie, N. B., for the twelve months ending October 31, 1900. There are to-day twenty inmates at the Lazaretto—thirteen males and seven females. Their ages range from nineteen to sixty-four years; and seven of the inmates may be classified as being in the first stage, twelve in the second, and one in the final stage of the malady. There were four deaths during the year, and three new cases were admitted from the surrounding districts in New Brunswick. During the year Dr. Smith, having received favorable reports from foreign leper institutions on the use of chaulmoogra oil and creolin, made several trials on the less advanced cases with encouraging results. This, however, is not the only place where leprosy exists in Canada. On Darcy Island, off the coast of British Columbia, there are confined five lepers—all Chinese males. One is maintained by the Province of British Columbia, and one each by the municipalities of Victoria, Vancouver, Nanaimo, and Kamloops.

NEW PUBLICATIONS.

PULMONARY CONSUMPTION, PNEUMONIA, AND ALLIED DISEASES.

This book will be read with more than usual interest for the reason that it discusses the questions of which it treats from a radically different standpoint to that which is usually taken in text-books. The fundamental ideas governing Dr. Mays's work are that pulmonary phthisis in the large majority of cases is a neurosis, and that the pulmonary disintegration is secondary. The treatment of pulmonary disorders, therefore, resolves itself in his mind into treatment designed to preserve the integrity of the nervous system, and that only such remedies will prove of any value in pulmonary phthisis. The special line of treatment which he advocates in phthisis is a counter-irritant injection of silver nitrate over the vagi in the neck. Acute pneumonia he also believes to be affiliated with a disorder of the nervous system. It is unnecessary to say that the book is a very suggestive one, and the author makes a decidedly strong presentation of his individual views. The work is certainly one which deserves to be read thoughtfully.

Pulmonary Consumption, Pneumonia, and Allied Diseases of the Lungs. Their Etiology, Pathology, and Treatment, with a Chapter on Physical Diagnosis. By Thomas J. Mays, A.M., M.D. Illustrated. New York: E. B. Treat & Co., 1901.

THE YEAR-BOOK OF THE NOSE, THROAT, AND EAR.

The second appearance of the Year-Book of the Nose, Throat, and Ear will afford much gratification and an excellent summary of last year's work to the men interested in the lines of medical work with which the book deals. While the volume of last year was somewhat a matter of experiment, it was promptly found that it met a need of the oto-rhino-laryngologist which had not been supplied by any other work. The volume for 1901 is of larger size, containing some 416 pages, as against 272 pages in last year's edition. The general arrangement, classification, and index (of both authors and subjects) leave little to be desired.

The work deserves hearty support on the part of all otologists and laryngologists who desire to keep in touch with current literature.

The Year-Book of the Nose, Throat, and Ear. The Nose and Throat, Edited by G. P. Head, M.D., Professor of Laryngology and Rhinology in the Post-Graduate Medical School of Chicago; The Ear, Edited by Albert H. Andrews, M.D., Professor of Otology in the Post-Graduate Medical School of Chicago, etc. Chicago: The Year-Book Publishers, 1901.

SYSTEM OF PRACTICAL THERAPEUTICS.

The second volume of Hare's System of Practical Therapeutics contains a number of notable articles which go to make this system a valuable modern commentary upon the treatment of disease. The editor contributes an excellent article upon typhoid fever, and another upon pneumonia. Dr. Patrick contributes a very interesting article on the disorders of sleep, and Dr. Dercum's article on drug-habits is one from which many valuable suggestions can be culled. There are half a dozen articles dealing with various phases of nervous diseases, which constitute an excellent summary of that department of medicine. A thoroughly practical article on the treatment of skin diseases concludes the valuable work. As a system of practical therapeutics these two handsome volumes will constitute a very valuable addition to the physician's library.

A System of Practical Therapeutics. Edited by Hobart Amory Hare, M.D. Second Edition, Revised and Largely Rewritten. With Illustrations. Philadelphia and New York: Lea Brothers & Co., 1901.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Curetting the Urethra in the Treatment of Chronic Posterior Urethritis.

George Walker (*Maryland Medical Journal*, March, 1901) recommends the curetting of the urethra in the treatment of chronic posterior urethritis. Preparatory to the operation the urethra is thoroughly irrigated with a 1-to-40,000 bichloride solution, and then a four-per-cent cocaine solution is instilled and held five minutes. An endoscopic tube, as large as possible, is introduced, and the diseased spot is localized by illumination. The curette is next applied, and the portion in view thoroughly scraped, so that the diseased tissue at this place is entirely removed, and along with it the epithelial layer and submucous tissue if necessary. After this has been done a ten-per-cent solution of nitrate of silver is applied to the spot by means of a cotton pledget. The endoscope is then pulled slightly forward, and another area is treated in the same manner. If the disease has extended deeply, so that much superficial tissue needs to be removed, it is best to do only a small amount at one sitting—say not more than one centimeter in length. In some cases, where the bleeding is extensive, the light must be dispensed with, for the blood soon obscures the lamp. The writer has found that after a little practice one can judge by the touch and can work almost as well without direct vision. The bleeding in most cases is slight, and almost immediately subsides. The pain is slight, and if the cocaine has been rightly applied there is scarcely any sensation.

Following the treatment there is usually set up a rather profuse purulent discharge, which lasts for one or two days. On microscopic examination it is found to be loaded with small short bacilli, diplococci, and usually a few gonococci. For this the writer uses twice daily an irrigation of 1-to-50,000 bichloride solution.

The writer has had marked success in this manner of treatment of chronic posterior urethritis.

Anastomosis of the Ureters with the Intestine.

The primary mortality of ureterointestinal anastomosis, both in experimental work on animals and in man, is, according to R. Peterson (*Journal of the American Medical Association*, March 23, 1901), exceedingly high.

The best technique is that requiring the least amount of suturing of the ureters themselves.

All efforts to prevent ascending renal infection in animals or in man where the ureter has been implanted without its vesical orifice have proved futile.

It is impossible to determine in advance the extent of the infection which will result from ureterointestinal anastomosis. The patient may die in a few days of a pyemia or in a short time of pyelonephritis, or in rare cases may recover from the infection, with resulting contracted kidneys.

Hence the operation is unjustifiable, either for the purpose of making the patient more comfortable, as in exstrophy of the bladder, vesicovaginal or ureterovaginal fistula, or for malignant disease of the bladder.

The results of ureterointestinal anastomosis through the formation of vesicorectal fistulæ have not been favorable up to the present time.

The success of Frank's experimental work in vesicorectal anastomosis justifies the expectation that the future results of this operation will be more satisfactory.

The primary mortality of uretero-trigono-intestinal anastomosis is low for an operation of this magnitude.

While it cannot be denied that ascending renal infection may occur after this operation, the infection, as a rule, is of such a type that the chances of the individual's overcoming it are good.

Hence the operation of implanting the vesical flap with its ureteral orifices into the intestine is a justifiable surgical procedure.

There is no valve guarding the vesicoureteral orifice; nor does the circular muscle layer of the ureter, nor the bladder muscles themselves, act as a sphincter.

It has been abundantly demonstrated by experimental and clinical work that the rectum tolerates the presence of urine and acts as a good substitute for the bladder, and that good control over the anal sphincter will be maintained.

Preparation and After-care of Surgical Cases.

J. T. Rogers (*St. Paul Medical Journal*, March, 1901) says that the patient should be prepared at least four days immediately before operation. Prolonged preparations on the table, exposure of large areas, and prolonged anesthesia are to be condemned. Handling the intestines unnecessarily, introduction of dry gauze into the abdominal cavity, increase the chance for complication, especially flatulency. Special attention should be paid to the temperature of the operating-

room at the time of the operation, and the body temperature should be carefully looked after by the application of heat during the operation. Normal saline solution for hypodermoclysis should always be ready for use, and employed freely when there is any considerable loss of blood or the shock of the operation is profound. Every operation should be performed as rapidly as is compatible with careful surgery. Rubber gloves should be worn by operator, assistants, and nurses in every operation. Morphine and atropine should be given whenever the pain is intense. Reaction when delayed should be hastened by normal saline injections, heat, and strychnine. Sepsis and exhaustion are to be combated by strychnine, normal saline solution, and whiskey. Credé and the nucleins and antistreptococcic serum are still *sub judice.* Blood examinations will, in many instances, aid both in the diagnosis and prognosis. Preliminary administration of nitrous oxide gas followed by ether is to be recommended.

GASTROJEJUNOSTOMY IN GASTRECTASIS OF TWO TYPICAL CASES.

A. H. Cordier (*American Journal of Surgery and Gynecology*, March, 1901) says that cancer of the pylorus, even though removed, returns quickly, and always kills. Pylorectomy is attended by a high mortality and is not a justifiable surgical procedure in advanced carcinoma of the pylorus. Gastrectasis due to a malignant closure of the pylorus is best treated by a gastrojejunostomy. The operation as advised by Wolfler or Van Hacker best meets the indications. The writer says it is not necessary to twist the bowel in making the anastomosis in order to prevent the bile from entering the stomach. The anastomotic opening in the stomach should be at the most dependent point of the dilated organ. The operation is attended by a low mortality. In all cases in which marked dilatation of the stomach exists accompanied by emaciation, pain, and invalidism, the operation of gastrojejunostomy should be performed. The relief of pain, due to the effort of the stomach to relieve itself, follows this procedure at once. The patient gains rapidly in weight, and if non-malignant disease be present, his former good health is restored.

REMARKS CONCERNING OPERATION IN CASES OF TYPHOID FEVER WITH INTESTINAL PERFORATION.

A. A. Berg (*Medical Record*, March 23, 1901) says that the existence of typhoid fever does not contraindicate an operation, for typhoid patients bear operation almost as well as otherwise healthy individuals.

The repair of a ruptured typhoidal ulcer attended with extravasa-

tion should be undertaken as soon after the perforation as the patient can stand the necessary laparotomy and possible eventration.

Operation in the preperforative stage is not to be considered, for a local peritonitis does not always signify an impending perforation, nor does perforation always imply extravasation. As we have no means of foretelling which ulcers will perforate, an operation undertaken to forestall such a perforation is like putting out a fire that has not commenced to burn.

Extravasation can usually be early diagnosed if strict attention is paid to the recognition of the symptomatology.

MEDICINE.

The Rôle of the Colon Bacillus in Human Affections.

A paper under this title was read by A. J. Lartigau, at a recent meeting of the New York Academy of Medicine (*Medical Record*, March 2, 1901). The writer spoke of the different varieties of this bacillus as one form. He said that we now know that it is one of the most widely distributed microorganisms in nature. Its presence in the mouth has been frequently demonstrated. Post-mortem invasion of various organs is a constant phenomenon, and this vitiates many of the bacteriological studies made after death. If the colon bacillus were enclosed in a loop of intestine that had become strangulated, it would soon become quite virulent—indeed, some observers state that almost any abnormal condition of the mucous membrane of the intestinal tract increases the virulence of this organism. The normal intestine provides food in a favorable form for assimilation by this bacillus, but it does not become virulent, because its first force is spent upon the process of fermentation. Not a few instances has been recorded in which the bacillus had been present throughout the body, and had given rise to a general infection. Numerous cases of hemorrhoidal phlebitis have been reported as a result of infection with this bacillus. Endocarditis has been shown by certain French observers to result occasionally from infection with the colon bacillus. It is thought to be a factor in the diffused diseases of the intestine, especially infectious enteritis, because of its presence in such cases in considerable number.

In traumatic lesions of the intestine, the colon bacillus evidently plays an important part. There has been a disposition to look upon this bacillus as the cause of peritonitis, but within the last few years the opinion has gained ground that the infection of peritonitis is

multibacterial. It is now generally accepted that most cases of appendicitis begin as a local inflammation of that organ, excited by some of the ordinary intestinal flora. The speaker said that he believes the ordinary pyogenic cocci are probably the primary factors, and the colon bacillus plays a secondary part. Any alteration in the biliary ducts would often result in an ascending inflammation and an infection with the colon bacillus. His own experiments had shown the colon bacillus in about twenty-five per cent of the gall-stones examined. Adami has suggested that the colon bacillus might be an important factor in certain forms of cirrhosis of the liver, but this theory still lacks confirmation. The colon bacillus readily gains access to the kidneys and the bladder, and is apparently important in the causation of infectious nephritis. All observers are agreed as to its being a very common organism in cystitis, and his own experience seems to indicate that it is more common in women than in men.

The relationship of the colon bacillus to urinary fever has often been suggested. A few cases are on record in which respiratory affections had been associated with the colon bacillus. Practically all the diseases of the nervous system associated with this microorganism are meningeal affections, which show nothing different from that observed when the ordinary pus-forming organisms are present. The colon bacillus has been found in some cases of suppurative diseases of the nasal sinuses, and in three cases of purulent otitis. The organism is present in numerous localized suppurative processes. On the whole, the rôle of the colon bacillus might fairly be said to be quite secondary in character.

A New Form of Hemoglobinuria.

Michaelis (*Deut. Med. Woch.*, Jan. 24, 1901) records a form of hemoglobinuria which he says has never been reported. A woman of forty-one years had an extra-uterine pregnancy with rupture and hemorrhage into the peritoneal cavity, with collapse and great reduction of hemoglobin (down to twenty-five per cent). For the next two days the urine had a reddish-black color due to the coloring matter of blood, for microscopically hardly a single red blood-corpuscle could be found. The urine became normal, and five days later hemoglobinuria again appeared lasting four days. There were two attacks of hemoglobinuria due to the absorption of a profuse hemorrhage, or, as Michaelis calls it, "posthemorrhagic hemoglobinuria." These may be explained in two ways: the hemoglobin may have been absorbed in unchanged form and excreted by the kidneys; this seems improbable, for if this were the case we would expect to find hemoglobinuria frequently after hemorrhage, but it is extremely rare, indeed almost

unobserved. The other explanation is that through the absorption of the hemorrhage there was produced a hemolysin which caused the solution of the patient's own blood-corpuscles, producing hemoglobinemia and hemoglobinuria. Ordinarily hemolysins are not active because they are combined with antihemolysins; but in this case there was such a large effusion of blood so rapidly absorbed that the organism was unable to provide quickly enough a sufficient amount of antihemolysin, and the large amount of hemolysin was dissolved out and became free in solution, thus producing a solution of the blood-corpuscles.

"Stomatite Erucique."

At a recent meeting of the Parisian Society of Biology, M. Artault gave an account of a curious form of stomatitis which he proposes to call "stomatite erucique," the origin of which had been hitherto unknown. It is, however, now known to be caused by eating fruits which have been in contact with the nests of certain caterpillars possessing an urticating property. The inflammation attacks the mucous membrane of the mouth, the lips, the gums, the cheeks, and the palate. The cause is the irritating hairs and secretions which the caterpillars leave in their nests. The disease, as a rule, attacks children who eat fruits which are taken into the mouth whole, such as cherries and gooseberries, and it is hardly ever seen except during the months of May and June, especially in dry years. A mouth-wash composed of tincture of "myrrh" generally cures the complaint very easily.

Tokelau.

M. Jeanselme (*British Medical Journal*, Feb. 23, 1901) has sent from Indo-China a very interesting report upon "tokelau," a disease of the skin peculiar to the East, which is widely spread and which is characterized, in addition to itching and the formation of desquamating patches of a dirty-yellow color, by the appearance of curious patterns of a geometrical regularity. These patterns take the shape of intersecting circles which cover the patient with all kinds of bizarre designs. Tokelau only grows on the naked skin and does not affect the hairy skin. According to M. Jeanselme the disease is due, not as was formerly supposed to a trichophytosis of the tinea imbricata type, but to an aspergillosis. There is an abundant mycelial network to be found in the scales of tokelau, producing sporiferous branches of a yellow color which give rise to the pale-colored patterns so characteristic of this disease.

Nasal Tuberculosis.

Primary tuberculosis of the nasal mucous membrane, says K. Renshaw (*Journal of Pathology*, February, 1901), does occur in man, and not so infrequently as is generally supposed.

The simple introduction of the bacilli into the nostril of a susceptible animal without any abrasion may cause tuberculous infection.

Infection having occurred, the disease tends to run a slow course.

Probably the further from the entrance of the nostril the seat of the lesion, the more rapid the course of the disease, and the earlier the invasion of other organs.

The system is, as a rule, invaded by means of the lymphatics, though very occasionally by other routes.

THERAPEUTICS.

The Use of Veratrum Viride in the Treatment of Pneumonia.

E. W. Saunders (*St. Louis Medical Review*, March 23, 1901) recommends the use of this drug in the treatment of pneumonia, owing to the fact that it diminishes the pulse-rate, lessens arterial pressure, and diminishes the number and depth of the respirations. It also reduces the temperature from one to three degrees, and gives the patient a feeling of well-being.

The writer says the great objection which has been raised against this drug is that it depresses and weakens the heart. With great care in the administration of the remedy, the heart should not be weakened; in fact, the quieting of the arterial excitement rests the heart. There is a stage, however, beyond which the drug acts as a great depressant. If veratrum is given in large doses, the heart becomes very slow, and the blood-pressure falls; but suddenly the blood-pressure becomes normal or increases above normal, and the heart-beat becomes very rapid. This effect is very dangerous, but with any ordinary degree of care this secondary effect can be avoided. The veratrum is best given in small doses, two or three minims every hour until the pulse is normal. The intervals should then be very much lengthened, or better still, in case the pulse can be watched by a competent nurse, stopped entirely for a few hours until it is noticed that the pulse-rate is increasing in rapidity, when a smaller dose should be administered.

When consolidation is complete, nothing can be gained by veratrum. Digitalis, caffeine, camphor, and strychnine are then indicated. By these agents, veratrum, with hydrotherapy and cardiac stimulants, the mortality of pneumonia should not be more than ten per cent.

The Specific Treatment of Acute Dysentery.

Dysentery is, according to W. J. Cruikshank (*New York Medical Journal*, March 16, 1901), a disease of great gravity, and one that is both contagious and infectious. It is caused by the introduction into the system through food and drink, also through the air, of a specific microorganism, the identity of which seems to be still in doubt. Dysentery is one disease, in whatever latitude it may be found, and the only varieties which have any foundation in fact are those which may be based on the intensity of the morbid process. The majority of the therapeutic agents which have been suggested for the treatment of acute dysentery are useless, and in many cases harmful. Sulphate of magnesium, properly administered, in the acute form of this disease, acts as a specific.

The Treatment of Gonorrhea with Frequent Irrigations of Hot Decinormal Salt Solution.

C. E. Woodruff, an army surgeon, in a contribution in the *Medical Record* of March 16, 1901, gives it as his opinion that the efficacy of the irrigation treatment of gonorrhea, which has been advocated most strongly by Janet and others, is due, not to the germicidal effects of the potassium permanganate used, but to the hot water, and to this effect he uses in his treatment normal salt solution as hot as can be borne by the patient, and has the irrigation kept up as long as possible. He tabulates a series of ninety-eight cases, in which the average duration for effecting the cure was twelve and a half days.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,

Lecturer on Dermatology, Detroit College of Medicine.

Late Symptoms of Congenital Syphilis.

At the meeting of the Dermatological Society of London, held November 14, 1900 (*British Journal of Dermatology*, January, 1901), Mr. George Pernet showed a girl of sixteen with late symptoms of congenital syphilis. Twelve months previously a lump had formed on the left tibia; it eventually broke down and got well under treatment, leaving a scar. About six months ago a similar lump formed just above the right internal malleolar region. It was still red and infil-

trated, but the center was healed by recent scar. She now has diffused swelling (periostitis) about the right internal malleolus, very painful to pressure. There are two similar smaller periostitic swellings on the upper parts of the tibiæ in front. The pains in the tibiæ are very marked at night; much less so or absent during the day. Round the mouth there are obvious old linear scars forming a network. The two upper central incisors are not typically Hutchinsonian, but the right one is distinctly notched at its free border in a semilunar manner, and the left one is on the way to a similar deformity. Otherwise these central incisors are fairly formed as to length, but both are slightly tapering. There is also a history of inflammation, with photophobia and haziness of the left eye at the age of ten, which was long in getting well (interstitial keratitis). No haziness can now be seen. The pupils react to light and accommodation. The patient is the only child of her mother's first marriage, but no further details with regard to history were forthcoming, except that the child says her father died of 'galloping consumption." Her mother has married again, and has three boys and four girls as a result of the second marriage, all healthy.

An interesting point in connection with this case is whether syphilis acquired in infancy or early childhood may not give rise to the symptoms described, including changes in the teeth, etc.

Tertiary symptoms are certainly unusual in true hereditary syphilis, although the latter condition is relatively common in comparison with early acquired syphilis.

The present patient's face has not the general aspect of congenital syphilis, such as depressed nose, bulging forehead, etc., although these are not necessarily sequelæ of the hereditary taint. Apart from the scarring about the mouth, the patient's appearance would not, at first sight, suggest congenital syphilis.

Ringworms, Acquired from a Cat, Long Mistaken for Circinate Syphilides.

At the meeting of the Dermatological Society of London, held November 14, 1900 (*British Journal of Dermatology*, January, 1901), Mr. Pernet presented the following case:

A woman, aged twenty-three, attended University College Hospital for circinate lesions of the face and body. Singly, and at first sight, some of the lesions were suggestive of a circinate syphilide. As a matter of fact, the patient had attended the department for syphilis seven years previously. She now had several disks from one-half to one inch in diameter on the chest, nose, chin, and cheeks, and

three on the neck. The eruption began on the end of the nose as a scratch. The most inflamed disk was on the middle of the chest, three-quarters of an inch in diameter, with a well-defined border one-eighth inch in width, flat and crusted. A smaller patch close by was commencing to clear in the center. On inquiry as to animal infection, it was elicited that a kitten which the patient handled had something the matter with its fur. The kitten was brought and examined, and denuded patches with stumps were found on its tail. A stump removed showed a white powdery sheath (naked eye). Microscopically, this stump exhibited a sheath of small spores, indistinguishable from Microsporon Audouini as to size and arrangement. No trace of beaded elements. On the same slide three narrower stumps were seen. They had frayed ends (proximal and distal), with a sheath of spores starting from near the proximal (root) ends and surrounding the stumps for some distance, but leaving a fair length of the distal end free. On pressing down the cover-slip the spores were detached in masses—no chain formation. Inside the stumps there were plain slender mycelial elements as in Microsporon Audouini, with spores external to stumps. It was noticed that the stumps broke up into longitudinal strands. Scrapings from the kitten's tail revealed masses of spores (no doubt from sheaths around the stumps), a few epithelial cells here and there, but no mycelium was observed. Scrapings from the woman's lesions showed abundant mycelium. It was short as a rule, with segmentation here and there. The filaments varied in size—some were coarse, others slender, branching (budding), occurring laterally and at right angles to the main filament. These characters Mr. Pernet considers as belonging to the Microsporon Audouini. There were no graceful, long, dichotomously branching filaments as occurs in large-spored ringworm. Cultures from the woman were unfortunately contaminated. The diagnosis arrived at was microsporon of the cat.

RHINOLOGY AND LARYNGOLOGY.

UNDER THE DIRECTION OF WADSWORTH WARREN, M.D.

Singers' Nodules.

The *Internat. Cent. für Laryngol.*, etc. (vol. xvii, No. 2), gives at some length a discussion which took place before the Laryngological Section of the last International Medical Congress. Professor Chiara, of Vienna, describing the origin and pathology of singers' nodules, said they are generally round or oval and are located on the

free border of the vocal cords, between the anterior and middle third. They are in most cases symmetrical, yellowish white in color, smooth, sessile, and the largest are about the size of a pin head. They occur in one half to one per cent of all cases of disease of the larynx, are found twice as frequently in women as in men, are most commonly observed in singers, but occur very frequently in children. They never ulcerate, and may heal spontaneously. Their causes are acute and chronic laryngeal catarrh, overfatigue of the voice, faulty singing methods. They arise through hyperplasia of the epithelium and the superficial fibrous layers of the vocal cords. Mucous glands are only exceptionally observed in them.

Krause, of Berlin, stated that singers' nodules are caused through a faulty method of singing, never through a faulty method of speaking. They are formed of connective tissue with cystic contents and a thick pachydermic covering which presses upon the fibrous center and finally causes its atrophy. Krause describes the functional affections of the larynx induced by this condition. When singers' nodules exist for a long time, they may produce pachydermic changes in the neighboring regions, such as the processus vocalis and the interarytenoid space. In cases where the hygienic treatment does not cause them to disappear, it is necessary to resort to surgical interference.

Capart, of Brussels, discussed the treatment. He claims that the hygienic treatment has no effect upon the nodules themselves, but only upon the accompanying laryngitis. Treatment by means of medication, such as the insufflation of powders, etc., is fruitless, if not dangerous. The affection should only be handled surgically, and to this end he recommends the use of the finest forceps, as, for example, those of Schmidt. The galvanocaustic treatment is only indicated in those cases where the nodules are too small to be grasped by forceps. Recurrences are frequent, but can be avoided by means of suitable postoperative hygienic treatment, and through suitable singing exercises.

Paget, of Paris, stated that the nodules occur ninety-five per cent. oftener in women than in men, and are observed more often in individuals with high than with lower voices. He explained this fact as being due to the constant tendency of singers to sing in a register higher than is natural to them. He also recommended removal of the nodules by means of forceps.

Moure, of Bordeaux, said that the nodules are only a symptom of functional fatigue of the larynx. In their incipiency one can obtain good results by hygienic treatment, but where fatigue of the voice has existed for a long time, only surgical interference is successful.

Chiara, in closing the discussion, said that the causes of the forma-

tion of singers' nodules are unknown. He considers penciling of the larynx with a twenty- or thirty-per-cent cocaine solution sufficient to produce complete local anesthesia. He operates with either the cutting forceps or with the galvanocautery, and only in those cases where the nodules have caused considerable disturbance.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

Causes of Visceral Ptosis.

Dr. Byron Robinson (*Lancet Clinic*) relates his experience of ten years in visceral ptosis, including observations of gynecologic patients, some 1500 celiotomies, and 500 autopsic abdominal inspections. Robinson claims that visceral ptosis is chiefly due to three great factors, viz.: (*a*) Elongation and separation of fascial fibers of the abdominal wall, especially along the linea alba and lineæ semilunares; (*b*) elongation and separation of muscular fibers of the abdominal wall, particularly in the form of diastasis of the musculi recti abdominales; (*c*) gastroduodenal dilatation from pressure of the superior mesenteric artery, vein, and nerve on the transverse segment of the duodenum. Since mesenteries are not intended for such mechanical support, the viscera follow the yielding abdominal wall, resulting in visceral ptosis. Persons with visceral ptosis suffer from neurosis due to trauma of the nerves in the abdominal wall. Visceral ptosis which deranges visceral motion, sensation, secretion and nourishment, gastroduodenal dilatation, and relaxed abdominal walls, he finds to be a very frequent disease.

Dr. Robinson suggests two operations for the above three serious and frequent conditions. For gastroduodenal dilatation he performs gastroenterostomy. For visceral ptosis he unites the two recti abdominales in a single sheath. For gastroduodenal dilatation he has been operating since 1864 with success, and his first case reported herself perfectly cured five years after the operation. This was a test case, for she had vomited for about two years before the gastroenterostomy. The union of the two musculi recti abdominales he has practiced since 1895 The first operation for visceral ptosis Dr. O. W. MacKellar and Dr. Robinson performed in May, 1895. The woman is now under observation, has borne one child since that time, and is perfectly well.

THE MEDICAL AGE

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ORIGINAL CONTRIBUTIONS.

THE DUTY OF THE PUBLIC TO THE MEDICAL PROFESSION.*

BY F. R. STURGIS, M.D., NEW YORK.

Five theses have been presented for our consideration by the reader of the opening paper (Dr. D. B. St. John Roosa) on the question of the duty of the public to the medical profession.

The first of these theses is: "That the average idea of the importance of sound medical education is not a high one." We will admit for the purpose of discussion that this statement is correct. But let me ask, Whose fault is it? I believe the fault to be that of the medical profession, inasmuch as the profession itself does not attach very great importance to sound medical education, and if that be so, how can we expect outsiders to regard it in a different light? Until within a very short time medical education was a private business enterprise, and was conducted by a number of gentlemen who deemed themselves competent to teach, and who formed themselves into a corporate body called the "Faculty of Medicine," teaching for the fees and the reputation which a position of this kind gave them. This body was a small one and was known as the "regular faculty." As time went on, and the number of subjects increased, either by subdivision of the larger subjects or by special instruction in certain branches which were not included in the original curriculum, an assistant, or, so to speak, irregular faculty, was brought into existence; and these men were induced to join for the advertisement that their names would receive in the college catalogue and for the advantages in professional reputation which these positions would entail. At present there are but few schools which follow this course, the larger ones now being incorporated and placed under control of the governing bodies of

*Read before the Academy of Medicine, New York, April 4, 1901.

colleges or universities as a professional division, becoming an integral part of the college or university; and yet these colleges or universities themselves are after all but private enterprises. It may be claimed that this is not a correct view to take, inasmuch as they are under the supervision of the Regents of the University of the State of New York; but it is only a supervision that this latter body exercises over the various faculties of the different colleges, and not in its strict sense control. Each college or university is a law unto itself, has no connection or affiliation with or dependence upon each other, and owes allegiance to no central body. Each appoints its own professors and makes or unmakes them as it pleases. Hence, I think we may even now say, although the condition of things has improved to what it was twenty years ago, that the various medical schools are still private enterprises, in which the doctors themselves have perhaps disappeared from the front rank to give place to the faculties of the different colleges with which they are united; but even this is true of only a portion of it.

Then, again, the idea is rather firmly embedded in the popular mind that *physicus nascitur non fit*, and that persons may be qualified to practice medicine even though they may have received no medical education or training; and I would call attention, as an exemplification of this, to the attitude of the public mind toward the Christian scientist and the osteopath. Those of us who have followed the fortunes of the bill which has just been killed in the legislature, known as the "Bell Bill," will have been struck with the fact that apparently intelligent persons insist that much good has been done them by the osteopath and Christian scientist, and that as they or their friends have been benefited by these irregular practitioners of medicine, they should be allowed to practice, although the Christian scientist claims that he does not practice medicine, but heals diseases through the medium of some religious cult.

The medical profession itself has too often lent color to this popular bias by its denunciation of the irregular practitioner, and it began years ago by the persecution of the homeopath and the eclectic, in which unfortunately the medical profession came out the worst; and in addition to this, the curriculum of the medical schools, until within a comparatively short time, had been such that it was impossible to turn out well educated men within the length of time which was prescribed as the course of study, requiring no preparation or qualifications beforehand in the way of education for the future candidate for medical honors. Small wonder, then, that the popular mind regards medical education as a matter of little importance.

The second thesis is: "That medical education has become very

expensive to the individual and to the college; that medical schools cannot support themselves." When we look about in this city of New York alone and see the number of medical schools there are, it does not appear to be a matter of great wonder that medical schools cannot support themselves. There are three schools for the undergraduate instruction of so-called regular medicine, and all three of them nominally under the supervision and control of a college. This does not take into consideration the homeopathic, eclectic, or the women's colleges. Of these three medical schools two are superfluous, and it is within the memory of all of us that one, the latest addition to this collegiate trinity, was founded not so much from a burning desire to improve the status of medical education, as from an unseemly and indecent struggle to obtain control of one of the three then existing colleges, the third one of which was practically a free lance among medical educators, but which, owing to this quarrel, was forced to amalgamate with the original medical school from which one-half of its faculty had seceded, and placed itself ostensibly under the wing of a university. So long as there is this cut-throat competition among medical schools and colleges, so long will the difficulty exist as regards the question of support, and the struggle will end in the survival of the strongest; and the medical school which has the longest purse is the one which is bound to survive, irrespective of the good or poor quality of its teaching.

Then, again, another point is that the positions in these medical colleges are looked upon as the property of the members of its regular faculty, and the appointments made for subordinate positions are not always based upon the merits of the candidate so much as upon the favor with which he is regarded by the powers which be.

The third proposition is: "That medical services are very largely gratuitous, and this gratuity is to the great benefit of the public and to individuals as well." That medical services are largely gratuitous I am inclined to believe, but I dissent strongly from the view that it is for the great benefit of the public and for individuals as well. The moment it is understood that a medical institution gives its services gratuitously, it will, everything else being equal, attract a large number of persons seeking relief from bodily ailments, and at once the institution has a reputation for possessing a large clinic. But what advantage is that to the public or individuals as well, when the physician attending has to hurry in order to see anywhere from thirty to sixty patients in the course of an hour; and what benefit can it be to the doctor himself, when he has anywhere from one to two minutes to attend to each patient? How can he study his cases and how can the position be of any special advantage to him? In private practice, I

will be bound to say, he gives a decent time to each individual patient, but the dispensary or the hospital patient is reeled off as rapidly as possible in order that the physician may get through his work on time, and not keep the successor to his room waiting; and it is of direct detriment to the public at large when they are taught that they can obtain medical services for nothing. There is, in my belief, no class of men who unwittingly, possibly, do more injury than the medical profession does in teaching the public to become paupers; for from free medicine to free bread and free soup is not a very long step. Indeed, philanthropic and charitable people have more than once declaimed against the pauperizing influence and detriment of the free soup kitchens.

The next point to attract attention is the statement: "That the treatment of the dispensary and hospital service is usually of the highest order." Perhaps it is, perhaps it is not; but the recent exposures which have been made in the service of one of the large hospitals in this city has not been such as to commend it to the public admiration or to the public respect; and it is not so very many years ago that the entire service of one of the city hospitals was turned over to the faculties of the three regular medical schools to be filled according to their pleasure, their pleasure being that the positions be equally divided among the schools for the purpose of clinical teaching, not for the advantage of the sick poor who were treated there. Still it may be, in spite of all these drawbacks, that the dispensary and hospital service is usually of the highest order.

The last point to be noticed is the statement: "That the accomplishments of the medical profession in the last century entitle it to public support and gratitude." To that point I take decided opposition. No profession or body of men, by any accomplishment whatever, is entitled to public support; and I doubt even if it be entitled to public gratitude. The idea, as I gather from this statement, is that the public should be willing to give what sums of money are asked in order to perfect the plans of these various schools, too often without any responsibility attaching to the school itself as to the expenditure of this money. If these various corporations can raise money from private sources, that is one thing; but to say that the public purse shall be open to them is to say that the public purse should be open to any enterprise which claims to confer a benefit upon the community. I say *claims*, for there is in this statement nothing whatever to show that the accomplishments of the medical profession in the last century have been such as to entitle it to public support. This claim is the necessary corollary of the proposition that gratuitous medical services are of great benefit to the public and to the individual, and

that inasmuch as the accomplishments of the medical profession have been so great in the last century, it is also entitled to pose as public mendicants and is dependent upon the public purse. To that I say No! If the profession proposes to pursue a charitable and altruistic course, if it proposes to devote itself to the advantage of the public, let it do so either from private means, or, failing that, let it become a portion of the city's administration; let it ask for the same condition of affairs that exists abroad, that there shall be a minister of public instruction who shall have entire control of the teaching bodies in this city or State, if you please; who shall appoint the professors and teachers and shall dismiss them; in other words, who shall be the responsible head of the teaching body. Then, and only then, can the medical profession have the slightest claim to being entitled to public support; but in its private capacity I maintain that to admit such a plea would be a gross wrong upon the public and upon the individual taxpayer, besides practically sailing under false colors.

DIABETIC GANGRENE; AMPUTATION; RECOVERY.*

BY AUGUST SCHACHNER, M.D., LOUISVILLE, KY.

I was called to see a man fifty years of age whose occupation has been that of a roofer. He had received an injury about ten years ago, a heavy weight falling on his right leg; after that he became addicted to the excessive use of alcohol. Eight months ago he noticed in the anterior half of the sole of the right foot a tingling sensation, which gradually increased, until the first of this year he sought the opinions of different medical men in the city. He saw four surgeons and several prominent general practitioners. I communicated with one of the surgeons since the operation, and he told me that he saw the man about the first of the year, and the thing which impressed him more than anything else about the foot was its blanched appearance, showing the local anemia of the part. He told the man, unfortunately for what transpired afterward, that in his opinion no surgery should be done on the foot. He then saw a prominent general practitioner, who made the diagnosis of alcoholic neuritis—quite a probable diagnosis to make—and advised against surgery. After that the man consulted another prominent surgeon, and notwithstanding the fact that one surgeon and a general practitioner had advised him to have no surgical work done on the foot, this surgeon unfortunately ascribed the trouble to an ingrown toe-nail, and cut off half the nail.

*Reported to the Louisville Clinical Society.

A few days later the big toe became gangrenous. The patient and his family naturally tried to throw the entire blame for the trouble upon the surgeon, which was improper.

It was at this point that I came in charge of the case, and I called Dr. W. C. Dugan in consultation. When I saw the man a week ago he had been practically septic for a week; his big toe was perfectly black; he had a lymphangitis and phlebitis running up the ankle and side of the leg into the thigh.

We did a quick amputation at night about midway between the ankle and the knee. The urine was examined before we did the amputation, and the physician who had charge of the case before I was called had also examined the urine, but sugar was not found either time. This amputation was done on Saturday (one week ago). Sunday it became apparent that there was not only recurrence of gangrene of the flaps, but the whole leg proper was red, with the characteristic red streaks running up the thigh. At the time of the amputation, when we took the tourniquet off, there was some bleeding, but no spurting. The perineal artery more than the anterior or posterior tibial showed signs of patulency. We tried the introduction of a probe, which is recommended in such conditions, where thrombosis is suspected, but did not succeed in that. However, on account of the bleeding of the stump we concluded there was sufficient circulation to keep the structures alive. After the patient was gotten into bed we began to examine the specimen, and found practically a complete obliteration of the arteries. We also examined the condition of the veins, and cutting a vein three inches below the amputation there appeared at both points of section a yellow dot; then milking the vein upward it was shown that pus could be extracted, proving that we had in this case a septic thrombophlebitis. Gangrene recurred in this stump, so that on Monday (the original operation was performed on Saturday) we did a hurried amputation at the upper third of the thigh about six inches below the hip-joint. The man had been septic all this time, and we did not take the pains to dissect out the ends of the nerves, the object being to complete the operation with the least possible expenditure of the man's strength. The operation was completed in fifteen minutes. He stood the second operation very well, considering the fact that he had been septic for ten days, with a temperature of 103° to 104° F. This second operation was done Monday morning, and in the afternoon he had a temperature of 102½° F.; it has since dropped to normal, and has been as low as 97° F. This subnormal temperature only lasted a few hours, and after the use of atropine, external heat, etc., he rallied. His temperature a few days later went up to 101° F., and for a week has been in the neighborhood of 100° F.

The last operation was performed so hurriedly that the flaps were not trimmed as accurately as they might have been; they were left extra long; and by Thursday following the operation there was a recurrence of gangrene in the flaps, which, however, was only local in its nature. We dressed the case carefully and dissected away some of the gangrenous flaps. The patient from this point made an unbroken recovery.

The interesting feature about the case is that within the last three days there has been polyuria. The urine was again examined for sugar and none found. Yesterday he secreted forty-three ounces and the day before that seventy-eight ounces. That was the first positive sign of diabetes. Of course, even if diabetes had been diagnosticated in this case I think the statistics of Kuster and other German surgeons would make high amputation justifiable. More than two-thirds of Kuster's cases have gotten well, with an improvement in the diabetic condition. Even now I cannot say positively that the gangrene in this case is of diabetic origin; there are the arterial changes which we find in diabetes, and the man has not been clear in his mental state. Three examinations were made of the urine and no sugar found.

MERCUROL INUNCTIONS PREPARATORY TO SKIN-GRAFTING IN LEG ULCERS.

BY WILLIAM RIDGELY STONE, A.B., M.D.,

House Surgeon at the City Hospital, Blackwell's Island, New York.

Of the various uses that have been suggested for the preparation known as mercurol the following seems to me to be the most satisfactory of all: In indolent and dirty leg ulcers many drugs have been tried for the purpose of cleaning them and getting them in a proper condition for skin-grafting. To attain this end I have employed the following procedure in seven cases. In five of the cases the ulcer was dressed with a solution of tincture of myrrh (1 in 12), and then an ointment of vaselin with twenty grains of mercurol to the ounce was applied to the ulcer for five days. At the end of this time, in each case, the ulcer was found to be clean, with fresh healthy granulations and in an ideal condition for grafting skin. In the other two cases as a control test I employed the ointment of mercurol (20 grains to the ounce) alone. At the end of ten days in both cases the ulcers were healthy and ready for grafting. Each one was grafted with skin after the Thiersch method, and in every case the grafts took, so that at the end of two weeks' time the patient was able to be discharged from the hospital. All these cases were dirty and foul, so that the test was a

fair one, and the results compared most favorably with those obtained from other methods employed in this hospital. Usually in syphilitic leg ulcers only about twenty-five per cent give satisfactory results after grafting. Here we have seven cases in succession which have given absolutely positive results. It seems reasonable to conclude that we have in this ointment a most valuable means for quickly rendering operable cases which ordinarily are treated for months in dispensaries and hospitals, causing trouble and annoyance without giving any reliable hope of cure.

Of course seven cases are not enough to justify one in claiming everything for this method, but for myself I feel perfectly assured that at least eighty per cent of syphilitic ulcers could thus be made rapidly ready for skin-grafting. As to the effects of this drug as a curative medium I know nothing, but it seems to me that where a drug so rapidly makes healthy a dirty indolent ulcer we might reasonably expect that its continued use ought to so stimulate the ulcer as to lead to its speedy healing. Therefore, I would suggest that some one take this matter in hand for further experimentation for the purpose of ascertaining whether such continued applications of mercurol ointment (20 grains to the ounce or some other strength) would give us the means by which we might heal over the most resistant of all forms of leg ulcers.

If this method of dealing with these ulcers were combined with internal antisyphilitic treatment we might find that we had solved a problem which has caused much thought and expenditure of time on the part of the medical profession.

66 W. 49TH STREET, NEW YORK.

BRIEFS ON THE SURGERY OF THE GENITO-URINARY ORGANS.

BY G. FRANK LYDSTON, M.D., CHICAGO,

Professor of Genito-urinary Surgery and Syphilology in the Medical Department of the University of Illinois; Professor of Surgery, Chicago Clinical School.

HYDROCELE AND ITS PROPER TREATMENT.

In considering the treatment of hydrocele it is well to remember that this condition is in by far the greater proportion of cases not a pathologic entity but a symptom. The old pathologic notions of hydrocele will not bear the light of modern surgical criticism. For example, how absurd the statement that hydrocele is a simple effusion of serous fluid into the sac of the tunica vaginalis testis, due to a loss of balance between secretion and absorption! The conditions giving rise to hydrocele vary from acute inflammation of the epididymis or testis

or both, resulting in an acute effusion into the sac, to serious conditions in the same locality secondary to malignant disease of these parts. In many instances chronic inflammation primarily produced by traumatism of greater or less degree of severity is responsible for the effusion. Tuberculosis of the testis is worthy of consideration in this connection.

Infection of the epididymis, which often occurs secondarily to an infection of the deep urethra from various causes, notably prostatic disease in old men, is also often responsible for hydrocele. In two successive cases in which I recently operated for prostatic disease, a large hydrocele due to the above mentioned cause existed as a complication and demanded operation. In relatively rare instances an injury of the testis results in a low grade of irritation of the tunica vaginalis, with consequent chronic effusion of serous fluid, with little or no change in the testis or epididymis. We have, again, in exceptional cases to deal with a serous effusion, usually bilateral, in which the hydrocele so-called is associated with general anasarca. In some instances the hydrocele is due to disease of the spermatic cord, located a greater or less distance above the testicle. Hydrocele is sometimes complicated with syphilitic disease of the testis.

It will be seen from the above epitome of the pathology of hydrocele that the chief consideration in deciding the question of treatment is the primary disease upon which the effusion depends. Serious results have followed from neglect of this point, especially where the injection method has been used in cases of serious testicular disease of a malignant or tubercular character, or in acute effusions into the sac secondary to orchitis or epididymitis.

Treatment.—Laying aside cases of acute effusion, which usually rapidly absorb spontaneously, and the pseudo-variety of hydrocele associated with general anasarca, the treatment of hydrocele is of necessity surgical. Even in these two varieties tapping and drainage of the sac may be indicated to relieve pain or mechanical discomfort. The old Vidal operation of subcutaneous puncture of the sac in acute hydrocele sometimes does yeoman service in the relief of the agonizing pain that is not infrequently associated with acute epididymitis and orchitis.

Injection Method.—There is no question that the injection method has been of great service in the treatment of hydrocele. In the preaseptic days of surgery it was indispensable. Now, however, that modern surgery has arrived at the point of approximate perfection in aseptic technique, the injection method has a very limited range of usefulness. According to modern standards, it is extremely unsurgical, and in view of the frequency with which hydrocele is associated

with diseased conditions of the testis which contraindicate the use of irritant applications to the tunica vaginalis, it is much less safe than surgical measures of a more radical character.

The ideal method of treatment has seemed to the author to be clean aseptic excision of the entire sac of the tunica vaginalis.

Technique.—The author's method, employed for some years past, is as follows: The parts having been shaved and asepticized, a temporary constrictor of rubber tubing or gauze is tied around the base of the tumor, constricting it sufficiently to shut off the return circulation of the skin. A line, so to speak, of one-per-cent cocaine solution is drawn subcutaneously immediately in front of the temporary constrictor. This is made to encircle entirely what may be termed the pedicle of the tumor. In a similar manner a second line is drawn subcutaneously, the cocaine solution being allowed to escape drop by drop as the tumor is encircled by the needle midway between the constricting band and the superior surface of the tumor. A similar line of cocaine solution is drawn longitudinally over the top of the tumor in the line of the proposed incision. Within three to five minutes the parts are sufficiently anesthetized to proceed with the operation. If the patient is very sensitive, it is an excellent plan to inject some of the cocaine solution into the interior of the sac. A longitudinal incision is made upon the superior surface of the tumor of a length proportionate to its dimensions. This is made to include the skin only. The skin is reflected to a point as near the constricting band as possible. The fascia and dartos muscles are now reflected back in a single layer, completely exposing the sac of the hydrocele. An incision is made into the hydrocele sac, the edges of which are caught on either side by a pair of forceps; the sac is then laid freely open, and subsequently excised over the entire extent of its attachment to the testis, and as far up the cord as is necessary. If the sac be very much thickened the visceral surface, which is necessarily left under such circumstances, is swabbed with pure carbolic acid, care being taken not to allow any of the acid to come in contact with the raw surfaces of the wound. A new sac is made from the fascia by stitching with continuous catgut suture, the suture material being the finest available. A small drain of iodoform gauze is left in the pseudo-sac emerging from the most dependent portion of the wound. The skin is now sutured with interrupted sutures of horsehair and silkworm-gut, with the usual antiseptic dressings applied. At the end of four or five days the dressings are changed and the drain is removed. The small sinus remaining closes within a few days, and the result is generally extremely satisfactory.

This radical method of operating often results in vast improve-

ment, if not a cure, of the chronic indurations and enlargements of the testis and epididymis so frequently associated with hydrocele. It enables also the excision of tubercular foci, small cysts, or other neoplastic formations which may be primary or secondary conditions. The stitching of the superimposed tissues in two distinct layers and the formation of a pseudo-sac are, I believe, efficacious in preventing adhesions of the skin to the testis, with subsequent tenderness and possibly neuralgia of the testis.

THE French Minister of Commerce, Posts, and Telegraphs recently set on foot an inquiry into the hygienic conditions of post-office employees, with special regard to the question of tuberculosis. He instructed one of the departmental medical officers, Dr. Mignot, to report to him on the matter. The report shows that tuberculosis is responsible for thirty-six per cent of the deaths among the staff, a much higher rate than the general tuberculosis death-rate for the whole of France. As probably the death-rate among the office staff is higher than the rate among the outdoor staff, the minister has adopted the conclusions of the report and has issued three regulations relative to (1) the improving from a hygienic point of view of post-office buildings; (2) a medical examination of applicants for employ in the department; and (3) the creation of a committee to investigate the best means of establishing a sanatorium for the use of post-office employees suffering from tuberculosis. None of the staff is allowed to spit on the floor, special spittoons being served out, and all floors are to be rubbed over with a damp cloth instead of being swept dry.

DR. U. QUENSEL states that there has been a progressive increase in the mortality from cancer in all Swedish towns during the last twenty-five years. In 1875–79 it was only 8 in 10,000 inhabitants, but it had risen in 1895–99 to 9.76. In the former period cancer represented only 3.57 of the total mortality, and in the latter 6.27. This increase is chiefly in the male sex, as in 1875–79 the incidence of the disease in the two sexes was as 192 females to 100 males, while in the later period the proportion is 150 females to 100 males. Dr. Quensel has also studied the relation of cancer mortality to the density of population, and excluding towns of more than 100,000 inhabitants, of which there are only two in Sweden (Stockholm and Gottenborg), the mortality is in inverse proportion to the total population, being 10.05 in 10,000 in populations of less than 2000; 9.08 in towns of from 2000 to 10,000 inhabitants; and 8.53 in towns of between 10,000 and 100,000 inhabitants.

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EDITORIAL ARTICLES.

NEW VIEWS BEARING ON TUBERCULOSIS.

The activity which has prevailed of late years in the bacteriological laboratory has had a tendency to distract attention from the problems of physiology associated with the pathogeny of tuberculosis. It is for this reason that the recent contribution of Robin and Binet to the French Academy of Medicine is unusually significant. It has hitherto been held that the volume of respiration is less in the phthisical than in the normal individual, and that hematosis is therefore less. The investigations of these observers prove exactly the contrary. They show that the respiratory exchanges are not diminished but are much increased. They carried on their experiments on 392 patients, and their researches show that what the French call pulmonary ventilation is increased 110 per cent in the female and 85 per cent in the male. The elimination of carbonic acid per kilogramme of body weight is 86 per cent in excess of the normal in the female, and 64 per cent in the male, while the total consumption of oxygen calculated in the same way rises to 100.5 per cent in the female and 70 per cent in the male, and the proportion of oxygen used up by the tissues is 162.8 and 94.8 per cent respectively. This exaggeration of respiratory combustion is present at all stages of chronic phthisis, and it is also present in patients suffering from other forms of tuberculosis. The fact that these phenomena are present from the very earliest stage, even in what is called the pretuberculous period, invests the discovery with extreme importance from the standpoint of diagnosis, because we are thus placed in possession of a means of forecasting the advent of phthisis long before any objective physical signs can possibly be detected. It may be that these facts cannot but modify current opinions upon the pathogeny of phthisis. If phthisis be a slow combustion of the organism, due to hyperactivity of the respiratory appa-

ratus, it may be that the deprivation of the mineral elements on the part of the tissues creates a special liability to infection, and it may therefore be that the bacillus does not play the predominant part in the etiology of tuberculosis that it has hitherto been presumed to play. The bearing of this discovery upon treatment may also be important. The idea that hematosis must be restrained and not augmented will be found at first difficult of acceptation. Life in the fresh air gives rest to the pulmonary tissues, according to this theory. It increases the pulmonary ventilation without calling upon the organism to do it, and so compensates the excessive hematosis.

Bearing on tuberculosis, recently two interesting autopsies were reported by Marchiafava. One, on a woman who had been for three years in the tuberculous ward of a hospital, revealed much bronchiectasis in both upper lobes. The parenchyma was so infiltrated with connective tissue that the anatomical diagnosis of pulmonary cirrhosis was easily made. Bacteriological examination revealed no tubercle bacilli, although she had had every opportunity for infection. A few days later another autopsy was held on a woman from the same ward. This case also showed pulmonary cirrhosis with cheesy spots in the neighborhood of contorted indurated tissue, so that it might have been healed tuberculosis, otherwise with bronchiectasis similar to the former case. Tubercle bacilli were found in this case, thus proving the tubercular character of the contraction. The bronchiectasis most probably occurred later. These cases also seem to throw light on the organic requisition for tuberculosis. It would seem that a pulmonary cirrhosis may present an infection of a tubercular character, which is healed by nature, thus causing the organism to become immune to further tubercular infection, or as a result of the contraction of the upper lobes the circulation of the blood in the other lobes may be increased, and not afford the spores of the tubercle bacilli a favorable condition for growth. However, as shown by the first case, a pulmonary cirrhosis may also result from bronchiectasis, and thus not be tuberculous. Tuberculosis and bronchiectasis are not related to each other, which is the opposite to the prevailing theory that bronchiectasic patients can easily acquire tuberculosis. To this view the first case furnishes a noteworthy exception.

EDITORIAL NOTES.

The Comparative Pathology of the Jews.

In a recent paper on the comparative pathology of the Jews, Dr. Maurice Fishberg comes to some very interesting conclusions. The

marriage and birth rates of the Jews are smaller than those of the Gentiles, yet the Jews increase more rapidly because they lose by death relatively fewer children and bring more to maturity, which speaks well for the hygienic laws of Moses. The Jews are less susceptible to infectious diseases, and are apparently not so liable to the effects of syphilis and alcoholism. The most notable disease among the Jews is diabetes. Insanity is more frequent than among Gentiles. The peculiarities of the Jewish people, the writer considers, are not due to any ethnic, biostatic, or racial characteristics of a purely anatomical or physiological nature, but have their origin in the past history of the Jews and their habits of life, and probably in the fact that the Jews have to a certain extent secured a considerable amount of immunity by reason of their past experience. The subject is an interesting one from a sociological standpoint, as a people with a long history naturally affords a more comprehensive opportunity for the study of comparative immunity than any other.

A Suspected Case of Plague in Michigan.

It is reported that an infection similar to that which occurred in Vienna took place recently at the University of Michigan. Mr. C. B. Hare, who was doing special work connected with the plague bacillus, was seized with sudden sickness. The temperature was 103°, and a provisional diagnosis of pleurisy was made. Cultures made from the secretions appear to have been negative, although the examination of some expectorated mucus resulted in finding a few suspicious organisms. The patient seems at no time to have exhibited the clinical symptoms of plague, but the employment of every prophylactic resource, and the injection of Yersin's serum, may have aborted their manifestation.

The Danger of Spinal Cocainization.

It is estimated that about 2000 spinal cocainizations have been made in Europe. Six deaths have already been reported. It is needless to point out that this is a fatality far exceeding any other form of anesthesia.

ITEMS AND NOTES.

An epidemic of pinkeye has appeared in Philadelphia.

An epidemic of smallpox at Saginaw, Mich., has been traced to a letter.

A serious epidemic of pneumonia recently occurred in Bakersfield, California.

The new building for the Yale Medical School at New Haven will cost $96,000.

Professor Gaylord, of the University of Buffalo, claims to have discovered the cause of cancer.

The Chicago College of Medicine and Surgery has increased its capital stock from $10,000 to $50,000.

Dr. Abraham Jacobi, of New York, celebrated his fiftieth anniversary as a physician on Thursday, April 4.

The American Laryngological, Rhinological, and Otological Society will meet in New York on May 23, 24, and 25.

Lake Forest College and Ferry Hall Seminary, Illinois, have been closed on account of an epidemic of mumps.

The professorship of surgery in the Royal College of Surgeons, Ireland, vacant by the death of Sir William Stokes, will be filled this month.

The Nineteenth Congress for Internal Medicine will be held in Berlin from the 16th to the 19th of April, under the presidency of Dr. Senator, of Berlin.

The Oakland, California, College of Medicine and Surgery, which was incorporated last fall, is about ready to accommodate 500 students in its new building.

Recently 1000 convicts in the penitentiary at Joliet, Ill., were vaccinated in the hope of preventing smallpox from breaking out among the prisoners.

The Medical Society of Paris has expressed the opinion that it is necessary to adopt some measures against the alarming extent of petroleum drinking in France.

It is said that the cost of drunkenness to the city government in Paris amounts to 2,000,000 francs per annum. The hospital statistics furnish the basis of this calculation.

Prof. Robert Koch of Berlin, Professor Brouardel of Paris, and Professor McFadyean of London, have promised addresses at the coming British Congress on Tuberculosis.

A fire which recently occurred in the Pathological Institute at Berlin destroyed a cabinet of collections belonging to Professor Virchow. Virchow says the loss is irreparable.

Recently a student in the University of Michigan at Ann Arbor, while cultivating the plague bacillus for the purpose of making Haffkine's vaccine, became infected with the disease.

There will soon be established by a Parisian benevolent society antituberculosis dispensaries for the treatment of tuberculosis alone, and medicine, food, and garments will be distributed gratuitously.

The Russian student riots at St. Petersburg, Russia, have resulted in all the higher courses for women in the Medical Institute of the University of St. Petersburg being closed indefinitely by official orders.

It is reported that the grave of Hippocrates has just been discovered during excavations at Larissa, in Thessaly. A royal commission has been sent to the place by the Greek government to take what measures may seem advisable.

The twenty-third annual congress of the American Laryngological Association will be held at New Haven, Conn., Monday, Tuesday, and Wednesday, May 27 to 29, 1901. The president of the congress is Dr. Henry L. Swain, of New Haven.

As a result of the recent yellow fever experiments a campaign of extermination has been undertaken in Cuba. Forty inspectors are to report all the breeding-places of mosquitoes, and petroleum will be poured once a month upon all such pools.

Dr. S. A. Knopf, of New York, has received the first prize offered by the Berlin tuberculosis congress for a paper on the subject of tuberculosis. He has already arranged for the publication and distribution of his paper with a view to using the proceeds in the establishment of sanitariums for the treatment of that disease.

According to an exchange, the sixtieth anniversary of the birthday of Dr. Gerhard Armauer Hansen, the discoverer of the lepra

bacillus, will be celebrated on July 29, 1901. His numerous friends and admirers, both among the medical profession and the laity, will commemorate the occasion by the erection of a marble bust of Dr. Hansen in the Lungegaard Hospital, Bergen, where he discovered the lepra bacillus. A committee of Norwegians is active in the solicitation of subscriptions for this object.

In a recent issue of *The Lancet* there is published an account of the law drawn up for the purpose of preventing malaria in Italy. The articles provide for an official declaration of the affected areas, for the gratuitous distribution of quinine to the poor from municipal sources, and the taxation of property to raise funds. Another article compels the government to supply quinine free of charge whenever it is responsible for the execution of a public work giving rise to malaria. The protection of all homes in the affected district against the entrance of insects, and the empowerment of the government to take any further measures necessary for the execution of the legal provisions, are included. In his new work entitled "La Malaria" Celli announces an annual mortality in Italy of 15,000 due to malaria, and that 5,000,000 acres of good land remain uncultivated.

According to the report of the Provincial Board of Health of Ontario, in regard to the extent of cancer in that Province, it shows that from the years 1886 to 1899 inclusive there were deaths from this cause as follows: 440, 614, 635, 714, 685, 579, 676, 678, 621, 620, 731, 927, 975, and 1041 in 1899. These figures indicate that those diseases included under the name of cancer are on the increase in the Province of Ontario. Prior to 1896 it will be noticed that these returns show no notable increase, but since that time there has been a remarkable increase. Probably this may be due to the fact that many deaths formerly included under "tumors" are now set down to cancer, through more description in death returns. Another cause may be set down to the great increase in the hospital population of the Province, which in 1885 numbered 5000, and now amounts to 20,000; and the increase in hospital accommodation, bringing with it better accuracy in diagnosis, would also tend to augment the statistics of cancer.

The *London Practitioner* says: "The arrangements for the congress on tuberculosis, which is to open in London on July 22, 1901, are making steady progress. Among the subjects to be discussed in the section of medicine are the influence of climate on consumption and the extent to which cases can be grouped for treatment in certain climates, and the question of sanatoria. In the pathological section the following subjects are proposed for discussion: (1) The varieties of tuberculosis (morbid anatomy and histology). (2) The morpho-

logical and physiological variations of the bacillus tuberculosis and its relations: (*a*) to the other acid-fast bacilli; (*b*) to the ray fungus and other streptothrices. (3) The tissue changes and constitutional effects produced by the various constituents of tuberculosis. (4) The pathology of tuberculous conditions requiring surgical interference. (5) Mixed infections in tuberculosis. (6) The congenital factor in tuberculosis. There is every prospect of a meeting that will lead to useful practical results."

The International Congress of Nurses is to be held in Buffalo next September for the purpose of studying, says the *Journal of the American Medical Association*, the national and international organizations which the nurses of this country, Great Britain, the British colonies, Denmark, and Holland have been developing during the last few years. The nurses' national organizations in all these countries are pledged to work steadily for the advancement of educational standards and ethical development, and those of English-speaking countries also have in view the attainment of state examination and registration. The organization in the United States is affiliated with the National Council of Women, and within the last year an international council of nurses has been organized, and will hereafter hold quinquennial meetings with those of the International Council of Women. The chairman of the Congress is Miss Isabelle McIsaac, of the Illinois Training School for Nurses, Chicago, and the secretary is Miss Banfield, of the Polyclinic Hospital, Philadelphia.

The Lancet says: "A royal commission has been appointed to make investigations respecting the beer-poisoning epidemic. The commissioners are Lord Kelvin, Sir W. Hart Dyke, Sir W. S. Church (president of the Royal College of Physicians of London), Prof. T. E. Thorpe (government analyst), Mr. H. Cosmo Bonsor, and Dr. B. A. Whitelegge (H. M. chief inspector of factories). Dr. G. S. Buchanan, one of the medical inspectors of the Local Government Board, is the secretary of the commission. The instructions to the commissioners are to ascertain with regard to England and Wales: (1) The amount of recent exceptional sickness and death attributable to poisoning by arsenic. (2) Whether such exceptional sickness and death have been due to arsenic in beer or in other articles of food or drink, and, if so, (*a*) to what extent; (*b*) by what ingredients or in what manner the arsenic was conveyed; and (*c*) in what way any such ingredients became arsenicated. (3) If it is found that exceptional sickness and death have been due to arsenic in beer or in other articles of food or drink, by what safeguards the introduction of arsenic therein can be prevented."

NEW PUBLICATIONS.

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The Medical News Pocket Formulary. Containing 1700 Prescriptions Representing the Latest and Most Approved Methods of Administering Remedial Agents. By E. Quin Thornton, M.D., Demonstrator of Therapeutics, Pharmacy, and Materia Medica in the Jefferson Medical College, Phila. New (3d) Edition, Carefully Revised to Date of Issue. In One Wallet-shaped Volume, Strongly Bound in Leather, with Pocket and Pencil. Price, $1.50, net. Philadelphia and New York: Lea Brothers & Co., 1901.

SYSTEM OF PRACTICAL THERAPEUTICS.

The third volume of Dr. Hare's excellent manual of Therapeutics is for the most part devoted to subjects of a surgical nature. It commences with the study of anesthesia and anesthetics, and ends with diseases of the uvula, pharynx, and larynx. All the subjects are considered from the standpoint of the general practitioner. The surgical reader will obtain a great deal of satisfaction from the very interesting series of plates dealing with progressive steps in the operative technique of appendicitis. The volume is an exceedingly interesting one, and will add to the value of the series.

A System of Practical Therapeutics. Edited by Hobart Amory Hare, M.D. Second Edition, Revised and Largely Rewritten. Volume III. With Illustrations. Philadelphia and New York: Lea Brothers & Co., 1901.

PRACTICAL HYGIENE.

In a convenient volume Professor Harrington has summarized the vast field of medical sanitation in a way to meet the needs of the student, physician, and sanitarian. The volume contains a vast amount of information of a most interesting character. The subject of foods is very fully commented upon. The following chapters deal with the air, soil, water, habitations; and individual health is considered in the subjects of rest, sleep, recreation, exercise, clothing, housing, warmth, ventilation, etc. Matters of purely public health are considered under such headings as disinfection and disinfectants, disposal of wastes, vaccination, disposal of the dead, vital statistics, etc. The book is a thoroughly practical manual on an important subject conceived in a modern spirit.

Harrington's Practical Hygiene. For Students and Practitioners of Medicine and Medical Officers. By Charles Harrington, M.D., Assistant Professor of Hygiene in Harvard Medical School, Boston. In One Very Handsome Octavo Volume of 718 pages, with 105 Engravings and 12 Full-page Plates in Colors and Monochrome. Cloth, $4.25, net. Philadelphia and New York: Lea Brothers & Co., 1901.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Surgical Treatment of Gastric Ulcer.

Koerte (*Deut. Med. Woch.*, March 21, 1901) discusses the surgical treatment of gastric ulcer, or more properly the results of gastric ulcer, namely, stenosis of the pylorus, dilatation of the stomach, and frequent hemorrhages.

In the operation for carcinoma the question is one of an early diagnosis, but in these cases the diagnosis is much easier, and with the exception of perforation an operation need not be attempted until the internal remedies have been exhausted and the results of the ulcer are apparent. In cases of nervous constriction, surgical interference should not be attempted, as we are not sure of results in these gastric neuroses. Frequent small hemorrhages may indicate an operation, but in large life-threatening hemorrhages surgical interference is the last resort. Perigastric adhesions following an ulcer, with much pain, require an operation, while perforation demands an operation within twelve hours.

Authors generally agree that dilatation of the stomach from cicatricial stenosis of the pylorus is incurable by medicines. The degree of danger from surgical interference in these cases varies with the individual, his strength, position and extent of the ulcer, and complications of other diseases. Although there is always a certain amount of danger in any laparotomy, as postoperative pneumonia, hemorrhage, and embolism, still the results from operations have been good in the selected cases.

Koerte has operated upon thirty-eight cases, ranging in age from sixteen to sixty-one; twenty-eight were over thirty years old. Symptoms had existed for twenty to thirty years in some, and in only three less than a year. Pain and vomiting occurred in all. Hematemesis or blood in stools was present in eighteen cases; stenosis of pylorus with dilatation of different degrees in thirty-two cases; four cases also had gastroptosis; and the three recent cases had stenosis without dilatation. The constriction was mostly at the pylorus, once in the upper duodenum, five times in the prepyloric region, and twice in the middle of the stomach (hour-glass stomach). The stenosis often appeared like a tumor and suggested carcinoma. Extensive surface adhesions were often present, as well as extension of the ulcer to the pancreas and liver. Hydrochloric acid was increased in twenty-four cases,

absent in four, a trace in three, and lactic acid in four. It was not always possible to differentiate between ulcer and carcinoma without the aid of the microscope. Gastroenterostomy was performed twenty-nine times with a mortality of 20.6 per cent. In one case, three years after the operation a peptic ulcer of the jejunum occurred, causing death by perforation. Later examination of the cured patients showed that all had improved greatly from a nutritional standpoint, all could continue their labors, and a few still had now and then some gastric disturbances.

Mastitis Adolescentium.

Adler describes (*Deut. Med. Woch.*, No. 5, 1901) an affection of the mammary glands, usually occurring at puberty in both boys and girls with no apparent cause. One or both glands swell, sensitive to touch, sometimes painful on pressure or upon movement of the arms. The nipple appears a little lengthened, erectile, and sensitive; the skin over the glands here and there reddened, but mostly normal; the glands themselves are palpable as a hard disk, sometimes becoming the size of an orange, but mostly of small dimension. Often a drop of glassy secretion can be pressed out.

The author believes there is a relationship between this condition and the sexual organs, especially with their changes during puberty. His treatment consists of applying tincture of iodine, mercurial ointment, and a protective bandage, and in very severe cases extirpation of the gland.

Regarding the above Dr. E. Franck, in the same journal of March 14, says that in eight years he has seen two such cases in boys between fifteen and sixteen years old. In the first case he found out that the boy was given to daily masturbation. He gave simply a cooling salve to apply, and lectured the patient on the results if he did not cease in his practices. The patient followed his advice, and in eight or ten days all symptoms had disappeared. The second case reminded him of the first, and he at once accused the boy of masturbation, finding such to be a fact. However, the patient did not return. Franck believes that the relationship between "mastitis adolescentium" and the sexual organs exists through masturbation, and says it would be interesting if Dr. Adler would question his patients in this direction.

Modern Gunshot Wounds.

Dr. E. F. Robinson (*Annals of Surgery*, February, 1901) in an article on "Gunshot Wounds in the Philippino-American War" has drawn the following conclusions: (1) The modern gunshot wound

is generally aseptic, and should be treated on this supposition. (2) Asepsis is due chiefly to the character of the bullet, and the early application of first-aid dressing; and, in a minor degree, to the velocity of the projectile. (3) Primary hemorrhage from modern gunshot wounds is exceedingly rare, the blood-vessels being displaced rather than cut by the rapidly moving projectile. (4) The "explosive effect" of the modern bullet is much less common than recent military literature would indicate. This peculiar destructive effect is produced by the character of the tissue struck, as well as by the great velocity of the bullet. (5) Gunshot wounds of chest are rarely infected. Simple antiseptic treatment, with aspiration of pleura in cases of severe hemorrhage, is all that is necessary. (6) Gunshot wounds of knee-joint are usually aseptic, but if infected, demand immediate amputation to save life. (7) Excision of elbow is always a justifiable operation in severe shattering or infection of that joint. Resection of bones of other joints is rarely necessary, erasion or amputation being preferable. (8) Injuries of nerves from gunshot wounds can often be benefited by operative interference or resection. (9) In modern military surgery, abdominal section for gunshot wound is not justifiable; the patient's best chance of recovery lies in conservative treatment without operation.

Transitory Absence of the Knee-jerk in Cerebral Injuries.

Professor Pick, of Prag (*Wien. Klin. Woch.*, No. 7, 1901), reports four cases in which the knee-jerk was absent some time after a cerebral injury. The first was a coachman who was kicked in the face by a horse, and the knee-jerks could not be obtained for a week. The second case was a man who was struck on the head by a locomotive, and the knee-jerks could not be found until five days later. The third patient was stabbed in the right parietal bone, and the next day a piece of bone was removed. Left hemiplegia set in, and the knee-jerk was absent on this side until his death nearly six months later. The fourth patient had been shot in the mouth, and loss of knee-jerk lasted three weeks. The author considers that the loss for some days of the knee-jerk after cranial injury is probably due to the degree of shock.

Enterogenous Infection of Tetanus.

An interesting autopsy was held in Vienna a short time ago upon a man fifty-four years old who had had the clinical symptoms of tetanus, but nowhere upon the surface of whom could be found the slightest abrasion. Other than the usual findings upon such a case,

the autopsy revealed an acute intestinal catarrh. The mucous membrane of the small intestine was swollen and injected, with a covering of thick mucus, which contained, besides the usual intestinal bacteria, thin bacilli resembling the tetanus bacilli, except none appeared to contain spores. Bouillon culture of the intestinal contents showed a great increase of these bacilli. Mice and guinea-pigs which were inoculated died in two to four days. The isolation of the bacilli was difficult, and has not been completed. This rare case, inoculation of tetanus through the intestinal mucous membrane, probably upon an existing catarrh which favored the absorption of the poison, causes Dr. Suess to believe many cases of "rheumatic" tetanus which have been reported might, if closer observations had been made, have proved to be cases of enterogenous infection.

Congenital Dislocation of the Shoulder.

It is of the utmost importance, says D. W. Marston (*New York Medical Journal*, March 30, 1901), to distinguish between cases of dislocation and true obstetrical paralysis. The treatment of the former condition is immediate reduction: by manipulation if possible; otherwise, operative. Every infant should be carefully examined at birth, for it is at this time that reduction is easiest performed. From the facts that a fracture of the glenoid cavity is sometimes found, and that the history of nearly all such cases shows difficult labor, the writer has been led to believe that these cases are not of paralytic origin, or due to non-development, but are due to traction made in the axilla by the finger or vectis, or to the arm being caught in some unusual position and dislocated by the contraction of the uterus. Paralysis may be coincident, but it cannot be a primary factor in causing dislocation posteriorly. The prognosis of the operative treatment is excellent. The earlier the operation the more hopeful the outlook. Like congenital dislocation of the hip, these cases of the shoulder are little benefited by mechanical treatment.

MEDICINE.

The Blood of Infancy and Childhood.

A. Stengel and C. Y. White (*Archives of Pediatrics*, April, 1901) say that the red corpuscles are more numerous at birth than in the normal condition in after-life. The hemoglobin is increased at birth, but tends to decline rapidly in the first few days of life. The specific gravity usually varies as the percentage of hemoglobin varies, so that

at birth the specific gravity is high and subsequently it declines. The white blood-corpuscles are greater in number at birth than in the adult blood, this excess in number constituting that which has been recognized as the physiological leucocytosis of the new-born.

In regard to the pathological conditions of the blood in infancy, the writers say that when nucleated red blood-corpuscles are found circulating in the blood after the second or third day of life, their presence may usually be assumed to indicate a pathological change or condition. Increase in the number of leucocytes more frequently presents itself in the blood of anemic children than in adults, and the increase may reach enormous proportions in apparently slight pathological conditions.

During the attack of any of the infectious diseases there is often but little change in the number of red corpuscles and the percentage of hemoglobin, while during convalescence a moderate or severe grade of anemia presents itself.

In hereditary syphilis there is a more or less pronounced grade of anemia, according to the severity of the symptoms. Usually the anemia is quite marked.

Slight acute inflammatory processes of the respiratory tract may cause oligochromemia and oligocythemia; chronic processes scarcely ever do.

In gastrointestinal diseases the condition of the blood varies according to the extent of the process, the duration, and the existence or non-existence of diarrhea and vomiting.

In rickets there is no typical blood picture. The changes may vary with the severity of the affection, its duration, and the involvement of the inner organs.

An increase in the number of eosinophiles has been observed in a variety of skin diseases, but the cause of the increase is entirely unknown.

In the functional disorders of childhood there may be a moderate grade of anemia, though this is often less marked than the appearance of the skin would indicate. Burr has found that the blood in chorea is not as a rule anemic.

Experimental Hepatic Cirrhosis.

N. Harley and W. Barrett (*Journal of Pathology*, February, 1901) have, from their work in this direction, found that when a single bile duct is ligatured, the portion of the liver remaining outside the area of ligature remains unaffected, while the following changes occur in the ligatured area:

1. A development of interlobular fibroid tissue occurs. In this

tissue small collections of multipartite nuclei are occasionally met with, but such collections form only a small fraction of the interlobular tissue.

2. The larger bile ducts become dilated, and there is a marked hyperplasia of the smaller bile-ducts lying between the lobules, which become tortuous and appear considerably increased in number.

3. The hepatic lobules atrophy; the atrophy commences at the periphery, and proceeds from without inwards.

4. The rapidity with which these changes develop and their intensity vary considerably in different animals of the same species, though the operative procedure is the same in all cases.

5. The functions of the liver cells in the atrophied lobules still continue, as is shown by the elimination of sodium sulphindigotate; by the presence of bile in the larger bile-ducts; and by the unaltered aspect of the liver cells. All these facts are observable when extreme cirrhosis has occurred.

The mode of production of cirrhosis after ligature of a single bile-duct appears to be as follows:

1. The interlobular fibrosis is attributable to the continued slight irritation set up by bile which passes through the walls of the smaller bile-ducts by osmosis, caused by the increased pressure of the bile resulting from ligature. Rupture of the smaller bile-ducts probably is not an effective factor in experimentally induced cirrhosis.

2. The dilatation of the larger bile-ducts and the marked increase of the smaller ones is, in part at any rate, directly due to the ligature, and is comparable to the extreme elongation and increase in size of the veins and venules, which is seen in considerable degrees of varix of the lower extremities and in varicocele. The authors' observations have so far failed to afford proof of other modes of formation of the interlobular bile-ducts.

3. The atrophy of the lobules is due chiefly to the irritant effect of bile which has passed out of the bile ducts, and which acts principally, if not almost exclusively, upon the peripheral portion of the lobule. It does not appear that pressure upon the lobules caused by the newly formed interlobular fibrous tissue is an effective factor in producing atrophy.

The Diagnosis of Smallpox.

Owing to the prevalence of smallpox at the present time, and on account of the difficulty the ordinary physician has in determining whether it be smallpox or not with which he has to deal, the Provincial Board of Health of Ontario has issued the following circular containing the chief diagnostic features of the disease:

1. A prodromal period of more than twenty-four hours, with headache, pain in the back, and vomiting.

2. The rapid abatement of prodromal fever and malaise after twenty-four hours and until the appearance of the secondary eruption.

3. A primary erythematous eruption or rash, especially covering the abdomen.

4. The appearance on the third day from onset of the papular eruption with its firm, shot-like feeling, and the tendency of the eruption to appear especially on exposed surfaces, as face and wrists, notably on forehead and about nose and lips, along with an increase of temperature.

5. The appearance early of a red areola around the vesicles, which appear first in forehead, face, and wrists, and pass gradually downward over the body, becoming mature and pustular by the fourth or fifth day, with the typical umbilication.

6. The appearance of the eruptive vesicles on the roof of the mouth and fauces—this being of special diagnostic value.

The rodent character of the pustules and the subcutaneous intercellular infiltration serve to complete a picture which, if taken with the fact that it is a disease attacking adults equally with children, along with a history of probable infection, will cause in most instances the diagnosis to become easy. But modifications of the disease have not been uncommon in the wide-spread outbreak of smallpox which has prevailed over the United States and Canada within the past two years. Some of these are the following:

1. Some cases have but little prodromal fever; some have pains in back, some do not; some vomit, some do not.

2. In some the eruption without shotty feeling appears altogether, and disappears with one crop; in others there is the shotty feeling with occasionally another crop of vesicles.

3. All the secondary eruptions are papular in the first stage (there being seldom any primary rash) and may become vesicles within three days; some abort at this stage and dry up, while others become semi-purulent, marked at the apex with a dark spot, but with no notable umbilication.

4. In some there is no secondary fever.

Tropical Dysenteries.

S. M. Long (*New York Medical Journal*, March 30, 1901) divides tropical dysenteries into five types. The first type he considers is the fulminating catarrhal dysentery, which is the most fatal of all. Nothing can, as a rule, be done to save these patients, and they gen-

erally die in from four to seven or eleven days. The second type, which is often met, is simple acute dysentery. It is a disease that starts as a diarrhea, and is often associated in the same subject with malarial fever. The third type, generally called the amebic type, can be divided into four different classes: (*a*) the amebic, (*b*) the trichomonadic, (*c*) the cercomonadic, and (*d*) the mixed. The fourth type is the chronic dysentery, so called, though mostly a sequela of the acute and amebic forms. The fifth type, the gangrenous and diphtheritic, is met with occasionally, and is generally fatal, either from perforation, from general peritonitis following, or from toxemia.

The sequelæ of dysentery met with in the Philippine Islands are many: (1) Its chronicity; (2) chronic gastritis and indigestion; (3) obstinate constipation; (4) paralysis (partial) of the large intestine, due either to obliteration of the glands and lack of secretion or to lack of innervation and blood-supply; (5) anemia, from lack of assimilation of food; (6) the association with it of malarial fever; (7) typhoid fever; (8) neuritis; (9) atrophic cirrhosis of the liver; (10) chronic parenchymatous nephritis; (11) abscess of the liver; (12) metastatic abscesses of other organs, as of the lungs and kidneys; (13) inanition; (14) toxemia; (15) dilatation of the stomach and intestines.

In the treatment of this affection the writer considers sulphate of magnesium to be the most useful drug that can be given.

A New Blood Stain.

R. C. Rosenberger (*Philadelphia Medical Journal*, March 2, 1901) recommends the following as a very efficient blood stain:

Saturated aqueous solution of methylene blue	50 Cc.
Saturated aqueous solution of phloxin	20 Cc.
Alcohol (95-per-cent)	30 Cc.
Water (distilled)	60 Cc.

These are all mixed indiscriminately together, and a bluish solution is the result. A precipitate generally forms, and the stain needs "shaking before using." The blood-films can either be fixed by heat (115° to 120° C. for twenty minutes) or in equal parts of alcohol and ether, or absolute alcohol. The stain works well in either case of fixation. After the preparation is dried from alcohol and ether, or from alcohol alone, the stain is applied and allowed to remain from one to three or four minutes, washed freely in water, dried, and mounted in balsam. As in all other blood-stains, the nucleus of the white cell stains either a deep or light blue, according to its variety; the red cells a pinkish color or a reddish-green. In the finely granular

oxyphiles, the nuclei take the stain quite darkly, the granules either a dull pinkish color or a bright red, denoting that they are slightly acidophilic and not always neutrophilic. The nuclei of the lymphocytes take the stain deeply, and around their periphery numerous basic granules are demonstrable as a rule, while some do not show granules.

In the coarsely granular oxyphiles the nucleus takes a light-blue stain; the granules are bright-red, almost brilliant.

The myelocytes take a very faint blue stain, the nucleus taking up nearly the whole cell, while in some small granules exhibiting a slightly acidophilic reaction are seen, and in others no granules are demonstrable. These cells are, of course, not found in normal blood, but in splenomedullary leukemia especially. The hyaline cell, which according to some is identical with the large lymphocyte, takes a uniformly light-blue stain, and no granules as a rule are demonstrable; occasionally, however, a few basophilic granules may be present. Finely and coarsely granular basophiles take a deep blue stain, the nucleus and granules both exhibiting an affinity for the basic dye.

The red corpuscles in normal blood generally take a pinkish stain, while in pernicious anemia and leukemia they take a reddish-green or a yellowish with a faint tinge of pink.

The nucleus of the normoblast takes the basic stain.

Not only is this stain useful for blood-cells, but it is also a fairly good one for the malarial parasite of any variety. The estivo-autumnal and the quartan parasite stain especially well; in any variety it stains a bluish-green, while pigment granules show up very decidedly upon this background.

An Experimental Study Concerning the Relation which the Prostate Gland Bears to the Fecundating Power of the Spermatic Fluid.

In order to elucidate more clearly the connection which the prostate gland holds to fertilization, G. Walker (*Johns Hopkins Hospital Bulletin*, March, 1901) instituted a series of experiments in which the gland in white rats was excised in part and in whole, and its effects on fecundity noted.

First series of seven pairs; anterior lobes excised; two bred normally, two had small litters, two were negative.

Series No. 2. Fifteen pairs; anterior lobes removed; nine bred normally, five proved negative, one escaped.

Series No. 3. Five pairs; after first operation, removal of anterior lobes; four out of five bred normally; one was negative. After a

second operation where complete removal was done, one bred normally, four were negative.

Series No. 4. Eleven pairs; complete removal of the gland at one sitting; eight were negative, three had small litters; none positive.

Series No. 5. Prostate gland removed in early life; did not have any effect on the subsequent development of the testes.

From the above experiment Dr. Walker says the following conclusions may be drawn:

1. That the removal of the anterior lobes of the prostate gland in rats has no effect on breeding; but in a certain number it diminishes the fecundating power; and in a few it is destroyed entirely.

2. Complete excision has a very marked effect on fecundity, reducing it to almost *nil* when the gland is entirely removed.

3. Partial or complete removal of the prostate has no effect upon the sexual desire and capacity.

4. Complete removal of the gland in the adult animal has no effect on the histological structure of the testicles. Complete removal of the prostate in the young animal has no effect upon the subsequent development of the testes.

The Anemia of Schoolchildren.

V. Starck (*Jahrbuch für Kinderheilkunde*, 1900) says that in the so-called anemia of schoolchildren there is simply an anemia of more or less severity, generally without any changes in the organs. The anamnesis is never clear regarding the function of the intestines, especially as to irregularity; and inasmuch as neither the answers of the children, six to ten years old, nor of their parents can be relied upon, the presence of indoxyl in the urine is of considerable diagnostic importance. In these cases the author generally found a chronic catarrh of the ascending and transverse colon and ileum, which he believes is due to the irregularity of going to stool among school children, owing many times to a certain nervous sensitiveness on the part of the children. The anemia is simply the result, or better a symptom, of chronic intestinal catarrh, so the treatment of these cases is purely dietetic. The use of iron preparations and the so-called foods and tissue-building remedies will give no results and sometimes may prove harmful.

Fatal Scalding of the Pharynx and Larynx.

E. Schmidt (*Deut. Med. Woch.*, No. 5, 1901) reports a case of a three-year-old child who tried to drink from the spout of a teakettle filled with boiling water. At first there were no local disturbances,

and after the first fear and pain had subsided the child did not complain, until in the night, when there was some dyspnea. In the morning the patient took some nourishment, but a laryngoscopic examination could not be made. Later cutaneous emphysema occurred, and the dyspnea became so severe that tracheotomy was resorted to. The next day the child died of cardiac failure following a left-sided pneumonia, occurring with high fever, accelerated pulse, and finally deep coma.

The autopsy confirmed the clinical diagnosis of pneumonia. The epiglottis was somewhat thickened and rigid, the mucous membranes on its laryngeal surface and on the larynx as far as the false vocal cords were necrotic. On a level with the endolaryngeal necrosis was found a crescent-shaped necrotic spot at the point between the pharynx and the esophagus. It is remarkable that with the scalding there were no pathological changes in the mouth and pharynx, which is explained by the deep introduction of the kettle spout in the mouth, the head thrown backward for suction, and the entrance of the steam or boiling water causing the child in an attempt to scream to take a deep inspiration. The author states that the English literature contains many such cases, mostly due to the large amount of tea-drinking in England.

The Influence of Bile on Metabolism.

Elliott P. Joslin (*Journal of Experimental Medicine*, March 25, 1901) says that bile increases the digestion when given by the mouth in pill form. The percentage of fat lost in the stools of a patient with a complete biliary fistula was sixty-three per cent in the first period and fifty-seven per cent in the third. The digestion of nitrogenous food is improved by the use of bile pills when the amount of fat in the stools is large. Ox bile is a cholagogue. The effect of the bile on the bowels is not remarkable, although they may be moved more satisfactorily during the bile period. In the writer's experiments with dogs he usually obtained diarrhea when giving bile. As to the general effect of bile on body metabolism, the writer observed that the urea and nitrogen were excreted in greater amount in the bile period than either of the others. The amount of urine is increased by more than fifty per cent in the bile period.

Bacteriology of Acute Articular Rheumatism.

Fritz Meyer, of Professor v. Leyden's clinic, made a thorough search for bacteria in the blood and articular exudates in cases of rheumatism with negative results. He then turned his attention

to the tonsils, and reports (*Deut. Med. Woch.*, No. 6, 1901) that he found in the mucus of the tonsils, in six cases of typical acute articular rheumatism, diplococci which grew on the tonsils as short chains and on culture media as long chains like streptococci. An injection of bouillon culture into an animal produced a hard infiltration at the point of injection, which soon necrosed but never became an abscess. After six to ten days the joints became swollen with a serous or seropurulent fluid, and the animals appeared to suffer from an affection of the joints similar to the rheumatism of humans. The diplococci seemed to be similar to those described by Wasserman, but not identical. Meyer found these bacteria only in the tonsillar mucus of acute cases of rheumatic arthritis, and never in other cases. These bacteria have an affinity for serous membranes and the endocardium, which shows the possibility that they are related to acute articular rheumatism. However, the number of cases investigated is too small to come to any definite conclusions as to whether these bacteria are or are not the sole cause of this form of rheumatism.

Antidote for Formaldehyde.

Several cases of poisoning with formaldehyde, taken by mistake, have recently been reported (*Merck's Archives*, March, 1901). In view of the fact that the chemical is coming into more and more general use as a disinfectant and antiseptic, such cases will probably become more frequent. An easily accessible and reliable antidote is, therefore, a necessity. We possess such an antidote in ammonia water. Ammonia, combining with formaldehyde, forms the harmless non-caustic and non-toxic hexamethylene-tetramine, which is a well known compound, and is employed therapeutically under the names formin, urotropin, etc. The equation expressing the reaction between formaldehyde and ammonia is as follows:

$6CH_2O$	plus	$4NH_3$	equals	$(CH_2)_6N_4$	plus	$6H_2O$
(formaldehyde)		(ammonia)		(formin)		(water)

The ammonia may be administered either in the form of the ordinary ammonia water (a few drops well diluted), or anisated solution of ammonia, or aromatic spirit of ammonia, or solution of ammonium acetate, which latter has no caustic properties whatsoever, and is equally capable of combining with the formaldehyde to form hexamethylene-tetramine.

PATHOLOGY AND BACTERIOLOGY.

UNDER THE DIRECTION OF THADDEUS WALKER, M.D.,
Microscopist to Harper Hospital, Detroit.

About Tubercle Bacilli.

Peterson (*Nord. Med. Archiv*, No. 33, 1900), in his experiments to determine how long the tubercle bacilli withstood drying, found that their power to take up stain lasted for years, while after sixty days' drying they lost their virulence for guinea-pigs. It was difficult to infect guinea-pigs with dried sputum by means of inhalations, but he was able to do so in one hundred cases if the sputum was thinned with water and then sprayed into the animals' mouths. If during a coughing spell he held a cover-glass before a patient he found 35 to 100 bacilli in ninety-two per cent of twenty-five patients so examined. When these glasses were washed off with water and sprayed at guinea-pigs they were infected. The carrying of bacilli by flies is very dangerous. In the intestines of flies which had been fed on tuberculous sputum were found large numbers of bacilli, and the investigator dissolved the excrementa of fifteen flies in water, and by spraying caused guinea-pigs to become tuberculous. Peterson also states that sunlight will kill the bacilli in fifteen to twenty hours; daylight requiring five to seven days. Cold of —80° C. had no effect; heat of 101° C. killed them in half an hour. Sputum which had been in a two-per-cent formalin solution for twenty-four hours would not infect guinea-pigs. Inhalation of formalin had no therapeutic value, and if used too strong was dangerous. The *x*-rays had no effect upon the bacilli.

The Basophile Granulations in the Red Blood-corpuscles.

Moritz confirms the reports of Hamel (*Deut. Med. Woch.*, Jan. 31, 1901) that lead introduced into the system will produce these granulations. Moritz administered lead acetate to rabbits and was able to produce basophile granulations in the erythrocytes. He also examined six laborers of a lead factory, one of whom showed a few signs of lead intoxication, and another had some years before recovered from an attack. All appeared perfectly well, yet each showed the typical granulations in the red blood-corpuscles. The author believes these granulations are useful in the diagnosis of lead poisoning. Other than among lead workers he has found the granulations in five cases, namely, in leukemia two, malaria, sepsis, and the cachexia of carcinoma.

Mechanical Treatment of Certain Forms of Vertigo.

Urbantschitsch (*Wien. Klin. Woch.*, No. 7, 1901) reports a case of severe vertigo in a man after an operation upon the mastoid cells. In scraping the carious mass an opening was made into the semicircular canals. His gait was very staggering, and he could not go up-stairs, though his hearing was unaffected. Ten weeks after the operation the vertigo was no better, and the author began the use of methodic head movements. Rapid improvement took place, and in two weeks he could with some difficulty use a wheelbarrow, showing a marked change in his bodily equilibrium. After three weeks of these head exercises the patient was able to take up his occupation again and did not notice his instability, which had not entirely disappeared. Urbantschitsch has used these rhythmic head exercises with considerable success in many cases of vertigo.

THERAPEUTICS.

Treatment of Eczema.

Kromayer and Grueneberg (*Deut. Med. Woch.*, No. 6, 1901) say there are three indications in the treatment of eczema: First, rest of the skin against internal and external irritations by means of powders, salves, pastes, damp bandages, etc., which are enough to heal all acute cases without chronic tissue changes (connective tissue infiltration, hypertrophy of rete Malpighii). The second is the removal of the chronic tissue changes in chronic cases (so-called parasitic, seborrheic, psoriatic) by using the "reducing" remedies, tar, sulphur, green soap, pyrogallic acid, chrysarobin, etc. If all cases of eczema were either acute or chronic, the treatment would not be difficult, but most cases are a mixture of acute and chronic inflammations, which makes treatment difficult, as both the above indications are in a certain sense opposed to one another. The third indication is the cauterization of the acute inflammatory areas. This procedure is not used by practicing physicians because it is not easy to determine the proper time to apply the cauterization, and when applied at the wrong time or to the wrong area the eczema may be made worse. The authors recommend lenigallol as a remedy which can be used by the practicing physician with safety. It is the triacetate of pyrogallic acid, occurring as a white crystalline powder, insoluble in water. It is the best remedy so far introduced for the treatment of eczema, because being insoluble it can be placed upon healthy skin without breaking up into its component parts or in the least irritating the skin, while on a

chronic inflammation it slowly loses its pyrogallic acid, and in cases with pustules, crusts, etc., the drug quickly breaks down, causing a slight cauterization.

The authors have used it in about 600 cases with very good results. They use twenty parts in eight parts of zinc paste, or in ten parts mixed with tar and zinc or in Wilkinson's paste (tar, sulphur, green soap, and zinc paste). The first mixture is used in mild cases as a thin paste upon the skin, covered with absorbent cotton and a light bandage. Generally all inflammatory areas are colored black in twenty-four hours. In the deeper cases one of the other preparations is used. In a few cases the caustic effect was not great enough to get the best results.

The Value of Alcohol in the Acute Infectious Diseases of Children.

A. E. Bieser (*Pediatrics*, April 1, 1901), in an article in which the value of alcohol as a therapeutic agent in the acute infectious diseases of children is shown, says that alcohol cannot be termed a food in the sense that it produces tissue. He says that while alcohol does not possess the tissue-building functions of food, it cannot be gainsaid that it possesses the fuel function of food in no mean degree. Regarded in this light, and being, chemically speaking, intermediate between a fat and a carbohydrate, it has been found that two fluidounces of ethyl alcohol equals ten ounces of lean beef in fuel function. Furthermore, alcohol, by undergoing oxidation in place of the nitrogenous elements of the body in such exhaustive fevers as typhoid or diphtheria, saves tissue waste, stores up energy, and acts indirectly as a food; for if it cannot, *per se*, produce tissue, it can at least do the next best thing, viz., save tissue in these diseases. While alcohol should not be given in every case of fever, certain definite indications exist which imperatively call for its use: (1) Persistence of a high temperature; (2) persistence of a rapid, feeble, irregular, dicrotic pulse, whether associated with high, low, or irregular temperature; (3) persistence of marked prostration.

Idiosyncrasy for Various Drugs.

A young lady, in apparently good health, broke out with a prickly rash over the entire body after taking a sea bath, and again after taking a dose of quinine. In the height of the summer season, while wearing a thin muslin gown, the same rash broke out upon her neck and arms. Morphine irritated her so that thirty minutes after taking a dose she became very nervous, anxious, and feared that she would die.

Strychnine produced an itching of the palms of the hands and the soles of the feet, which upon repeating the dose became general all over the body and most unbearable. These symptoms had nothing to do with suggestion, because when she took the drugs without being aware of their nature and their effects she always had the same symptoms.—*Münch. Med. Woch.*, March 26, 1901.

RHINOLOGY AND LARYNGOLOGY.

UNDER THE DIRECTION OF WADSWORTH WARREN, M.D.

The Treatment of Nasal Polypus.

Dr. Lambert Lack (*Laryngoscope*, vol. x, No. 3) opened a discussion of this subject before the London Laryngological Society with a very able address. Referring to the pathology he maintained that the ordinary mucous polypus is essentially a simple localized patch of edematous mucous membrane, and that this edema is a result of disease in the underlying bone. He exhibited specimens of diseased middle turbinated bodies showing the transition stages between simple edema and true polypus. In every case he had examined, bone changes were found of the nature of a rarefying osteitis. Clinically there is found every stage between edema of the mucous membrane and polypus—a slight edema, a marked localized edema, a broad sessile polypus, and a typical pedunculated polypus, varied in degree but not in kind.

Acting on this theory, the treatment must be directed toward the eradication of the bone disease and not simply toward the removal of the polypi, one of its effects.

In cases in which one or two polypi only are present, which are of long-standing, and in which it is probable that the initial bone disease has disappeared, a simple removal with the snare may be practiced. It is a matter of experience that recurrence in such cases is rare.

In cases in which a few polypi are present and the area of bone disease is apparently small, the snare may be used, but an attempt should always be made to hitch the wire loop as high as possible around the base of the growth, so as to encircle the piece of bone from which it grows. At a subsequent sitting any adjacent area appearing diseased should be clipped away with Grünwald forceps or curetted.

In cases of extensive bone disease with many polypi involving an extensive part of the ethmoid, a more radical procedure is necessary.

Lack operates on these latter cases under general anesthesia. The

ethmoidal region is examined, both anteriorly and through the post-nasal space, with the finger to determine as far as possible the extent of the disease. The middle turbinate if present is removed with a spokeshave, and any large polypi should be removed with the forceps. Then the lateral mass of the ethmoid should be thoroughly scraped away by means of a large ring-knife. After all diseased tissue is removed, hemorrhage is arrested by a packing of gauze soaked in glycerin iodoform emulsion, while lint wet with evaporating lotion is placed over the face. Lack has had no serious results in the fifty or sixty cases in which he has carried out this procedure.

Other members of the society in the discussion seemed to consider Lack's procedure somewhat radical, though many agreed on the importance of amputating the middle turbinate in whole or in part.

Mr. Creswell Baber drew attention to the need of caution in operating upon old people over seventy years of age, both on account of shock and on account of the likelihood of subsequent hemorrhage.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,
Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

The Coexistence of Carcinoma and Fibroma in the Corpus Uteri.

W. A. Newman Dorland (*Philadelphia Medical Journal*, March 30, 1901), from his study of the clinical and histologic manifestations of reported cases, says that it is possible for fibroma and carcinoma of the uterus to coexist, and that this coexistence may manifest itself in one of three distinct ways, as follows (given in their order of frequency): (1) Fibromyoma of the corpus uteri with carcinoma of the cervix, the increased vascularity of the uterus and the irritant leucorrheal discharges attendant upon the benign tumor favoring in those women so predisposed the development of cervical malignancy. (2) Fibromyoma of the corpus uteri with associated adenocarcinoma of the endometrium, the malignant disease not invading the benign tumor, but originating either in the tubular utricular glands or in the included glandular vestiges which may be present. (3) True cancerous degeneration of an adenomyoma, the malignant change originating in glandular vestiges, included in the uterine growth, or the carcinomatous disease invading the benign growth by extension from an endometrial adenocarcinoma through contiguity of tissue.

Puerperal Sepsis: Its Prevention and Treatment.

E. E. Montgomery (*American Medicine*, April 6, 1901) says that the treatment of sepsis may be summarized as follows:

1. Prevention by the exercise of the most careful asepsis and antisepsis.

2. The accurate study of each puerperal case to recognize the cause of high temperature and eliminate other factors than sepsis.

3. The maintenance of the vital forces and the promotion of elimination by the administration of diet and remedies to meet indications.

4. The employment of serum injections when streptococcic infection can be recognized or justifiably inferred.

5. Resort to operative procedures must be governed by the local manifestations. Curettage is rarely justifiable in pure sepsis. Peritonitis or localized cellular inflammation in the pelvis should indicate vaginal incision and drainage. Hysterectomy is indicated whenever the uterus can be recognized as the seat of localized collections. When the ovary or tube only is involved, it should be removed. The recognition of a pus collection should indicate its evacuation or the extirpation of the organ in which it is situated.

6. The continuance of symptoms of sepsis when local manifestations are not recognized will justify incision to determine the presence of secondary sources of infection.

OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,

Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

Systemic Factors in Catarrhal Deafness.

Dr. Sargent F. Snow (*Journal of the American Medical Association*, March 23, 1901) draws attention to a sluggish skin reaction, low vital forces, torpid liver, and a lack of proper exercise as among the chief systemic factors in chronic catarrhal deafness. He urges, in these cases, cold baths and friction as a remedy for the sluggish skin reaction and avoidance of the pernicious head colds to which, as a rule, these patients are subject. The author believes with A. Chelmoski that "the proper method of protecting against cold is not to wear an excessive amount of clothing, but to stimulate the skin to rapid reaction." The skin reaction should be so prompt that it will be a shield rather than a menace to health.

A torpid liver or lack of exercise exerts an unfavorable influence

on the inflammation in the Eustachian tube. Correction of nasal and postnasal morbid states is but a small preliminary step, if some uncorrected extraneous cause is keeping the Eustachian tube swollen. The local treatment consists in puffing camphor and iodine vapor into the tympanic cavity, and massage of the drumhead, daily if indicated.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Lecturer on Dermatology, Detroit College of Medicine.

Recent Advances in Dermatology.

The following extracts are taken from the address of F. Duncan Bulkley, A.M., M.D., delivered before the Section on Cutaneous Medicine and Surgery at the fifty-first annual meeting of the American Medical Association (*Journal of the American Medical Association*, March 30, 1901), entitled "Recent Advances in Dermatology:"

La Grippe Rashes.—Very interesting additions to the list of acute erythematous skin lesions are those which have of late years been described in connection with la grippe; and often these will prove very puzzling to those not very well acquainted with diseases of the skin. In some instances the eruption is hardly distinguishable from measles, and in others it will be so confluent that scarlatina is closely simulated; sometimes it is impossible to determine the true nature of the eruption at once, and it is only by the concomitant symptoms that a probable diagnosis can be made. These la grippe eruptions are generally very short-lived, although sometimes they may persist and even recur, and from the catarrhal symptoms often present are not infrequently reckoned as second or repeated attacks of measles.

Tuberculosis Cutis.—Tuberculosis cutis has also obtained a full recognition of late years, and though comparatively rare, it may at times be of considerable interest to the general physician. While lupus vulgaris is also recognized as due to, or at least associated with, the presence of tubercle bacilli, the name "tuberculosis cutis" is most commonly given to the warty masses seen from time to time, principally about the hands and face. While lupus probably comes from the infection of the bacilli through the medium of the lymphatics and blood-vessels, the tuberculosis cutis verrucosus has to do with primary local infection, and the disease tends to remain more or less local, or increases very gradually. When removed effectively the disease remains absent, a healthy cicatrix taking its place. It is most commonly seen in butchers, and also in anatomists, and in those having

much to do with tuberculous patients, as in laundresses who have cared for their clothes.

Rôle of Pus Organisms in the Production of Skin Diseases.—Dr. White, Jr., of Boston, has made some very interesting studies in regard to the rôle of staphylococcus in skin diseases, and while he demonstrates that the pus cocci were found in a variety of pustular lesions, he acknowledges that the form and variety of the lesions depend upon other elements. No one can rightly deny the power of microorganisms to produce disease, for the results of aseptic surgery are incontrovertible, but there is great danger in connection with diseases of the skin lest local pathology lead to a neglect of the more important consideration of the soil on which the germs flourish. A striking illustration of the bearing of this remark is found in the change of opinion which has come over the medical world in regard to the relative importance of attention to the microbe in tuberculosis, as compared with the more important elements of the nutrition and hygienic condition of the patient. Pus organisms, as also an infinite variety of bacteria, are almost omnipresent, and when opportunity offers, pathogenic organisms do germinate and their toxin causes disease. But, on the other hand, the very omnipresence of these germs and the relative infrequency of their action certainly show us that the truly wise physician should look to more than the local factor and seek to discover and remedy the underlying cause in each case. This points once more to the wisdom of the precept that it is often the patient who is to be treated rather than the disease by a specific name.

The Hypodermic Injection of the Sozoiodol of Mercury in the Treatment of Syphilis.—In the discussion Dr. H. C. Yarrow, Washington, D. C, said: "I was particularly impressed with the remarks concerning the use of medicines by hypodermic injection instead of by the mouth. I have been using for the last four or five years, in cases of constitutional syphilis, hypodermic injections, and have found sozoiodol of mercury to answer best. I have used other preparations, but none which gave so little pain. If the part is rendered anesthetic, and care is taken to drive the needle deeply into the tissue, the insertion may be accomplished without pain. Out of hundreds of cases in which I have used this treatment, to the exclusion of remedies by the mouth, I have never had a bad symptom or abscess, and very few cases in which I have failed to cure the patient. I am very glad to hear this mentioned, because if the members of the profession at large knew what great value there is in the hypodermic injection of mercury, according to my experience, they would largely abandon the use of remedies by the mouth. The proper mode is to commence with ¼ grain and run the amount up according to the idiosyncrasy of the

patient. I have given as much as 1.5 grains at a dose without trouble. At the commencement of the treatment it may be given twice or three times a week for several weeks. After perhaps four or five weeks, if the patient is doing well, it may be given only twice, until finally you give one hypodermic injection weekly, then one in two weeks, and so on. I never cease this treatment under two years. Certainly, in my hands, the results have been more gratifying than anything I have ever used."

Legal Control of Syphilis.

In a paper presented to the Section on Cutaneous Medicine and Surgery at the fifty-first annual meeting of the American Medical Association (*Journal of the American Medical Association*, April 6, 1901), entitled "Syphilis as a Non-Venereal Disease, with a Plea for the Legal Control of Syphilis," L. Duncan Bulkley, A.M., M.D., says in conclusion that the first step toward accomplishing the legal control of syphilis would undoubtedly be found in placing it among other contagious diseases which come under the jurisdiction of the health officers; indeed, the wonder is that it has not been so placed long ago.

If syphilis were first recognized as one of the great contagious diseases, against which it is the duty of the government to protect the community, the details of that protection would follow with time, as they have in regard to other contagious diseases; as the public became aware of the dangers arising from syphilis, and the benefits accruing from its restriction, there would be no difficulty in securing proper laws relating to the subject.

The suggestion, therefore, is most earnestly put forward that the time has certainly come when the dangers of syphilis, and especially the dangers to innocent persons, should be fully and fairly recognized and met. It is too late in the history of science and of humanity to stigmatize the disease as "venereal," and on that account to withhold scientific protection from thousands of innocent sufferers. Among babes, nursing women, persons infected in dental and surgical operations, and in dozens of other innocent manners, syphilis can no more be described as venereal than can any other contagious disease. The time has come to place it under the control of the proper health officers, and to make it quite as criminal to transmit syphilis wittingly as it is to communicate smallpox, scarlatina, or diphtheria. It is believed that if only syphilis can be included on the list of contagious diseases which the health boards can control, proper legislation will follow slowly as the profession and public become more enlightened as to the real nature of syphilis and the real danger of the public from it.

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ORIGINAL CONTRIBUTIONS.

CLINICAL LECTURE IN NEUROLOGY.

BY HAROLD N. MOYER, M.D.,

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Traumatic Epilepsy: Severe head injury; initial *grand mal* attack; later, changes in character; development of *petit mal*, and hallucinations; no focal symptoms.

Occupation Neurosis: Pure type of writer's spasm; slight tremor; no neuritic symptoms.

TRAUMATIC EPILEPSY.

The first case which we will show you to-day is one of traumatic epilepsy. The patient is thirty-seven years of age, married, and a paper-cutter by occupation. He is well developed physically, and up to the time he met with the injury to the head he enjoyed perfect health. The family history is free from neurotic heredity. The father died when a young man as the result of an accident, and the mother is vigorous at the age of eighty.

In April, 1899, the patient was struck over the head several times with a club. The scalp was cut across the vertex, the wound being some three inches in length, the scar of which is still apparent. In addition to this cut in the scalp, there were at least three distinct bruises over the back of the head. At the time his physician saw him these bruises had been succeeded by much edema. He was not rendered unconscious by the blows, but was dazed and did not speak coherently for nearly a week after the injuries. A very slight examination was made of the skull beneath where the cut was situated, and no incisions were made over the parts which had been bruised. Three or four days after the injury he had a severe epileptic seizure. The

attack lasted about half an hour; it was preceded by a cry. There was complete loss of consciousness, general tonic and clonic convulsions, accompanied by frothing at the mouth and biting the tongue. The convulsion was succeeded by a period of somnolence. From this time, for some months, the patient improved. He spent the first two or three months after the injury in bed; then he gradually got about, and some nine months following the injury returned to his work.

The incoherence and wandering mental condition which was so apparent for the first week after the injury passed away, but as he recovered a distinct change was noted in the character of the patient; he was more irritable; where formerly he had been self-confident and courageous, he was now timid and distrustful. With the exception of these psychical symptoms, there was nothing of especial importance noted in the patient during the year that he followed his employment.

Last February he was seized in the night with a severe convulsion which presented all the characteristics of *grand mal*. There were severe general tonic and clonic spasms preceded by an initial cry; there was frothing at the mouth and the period of somnolence.

After the second severe convulsion he complained of attacks of dizziness. These came quite frequently, varying from three to six or eight in a day. He does not fall, but says he feels as if he would. He is quite sure that there is no loss of consciousness. There is no definite sign of their approach. The only thing which he describes as an aura in his seizures is an uncomfortable feeling in the epigastrium, which he says preceded his second attack in February last. Since the development of these slight epileptic seizures, which unquestionably should be designated *petit mal*, there has been a rapid deterioration in his mentality; there is increasing irritability, and a distinct loss of memory has been noted.

The physical examination of the patient shows nothing distinctive. The pupils react quickly to light and are of the same size. The eye-grounds are normal. There is no paralysis. Coordination is perfect. The knee jerks are not increased and sensation is intact throughout.

The examination does not show any distinctive mental changes with the exception of a slowness of speech and comprehension. This is perhaps not more than might be observed in persons who had not sustained an injury or were not suffering from any disease of the brain, but his wife, who accompanies him, says he has heard voices in the right ear. These hallucinations are not fixed, and he is not quite sure that he can make out what is said, but they are sufficiently audible to attract his attention, and he turns his head in the direction from which the voice comes, only to find that there is no one speaking.

The examination of the heart, lungs, and kidneys is negative, and the general health of the patient is good. He sleeps well, his appetite is fair, and his nutrition is evidently good.

The lessons to be drawn from a study of this case are very interesting, and point definitely to what should be done in severe head injuries. The physician who first examined him found the cut in the scalp. His wife, who was present, does not say that he examined the skull to ascertain if there was a fracture. It is probable that he did; but in addition, the man had three other contusions of the head which were followed by marked edema, and which was probably sufficient to prevent any accurate examination of the skull. The head symptoms were marked from the beginning, and it is the duty of the surgeon in cases of this kind to ascertain the condition of the skull. An incision could have been made, that would have done no possible harm, exposing the skull so that the bone could have been carefully examined for signs of fracture or evidences of depression. The brain symptoms from which the man suffered clearly pointed to the advisability of such a procedure. The severe epileptic seizure which followed the injury on the fourth day also pointed to the necessity of a radical exploration.

The golden opportunity for the surgical treatment of this case was allowed to pass. The condition of the patient slowly ameliorated, and later there happened, what frequently occurs in these cases, a further convulsion and the development of a large number of slight attacks. The patient is now rapidly growing worse; already he has advanced so far down the road toward dementia as to have an auditory hallucination and considerable impairment of the memory and a want of attention. He has been treated with bromides with no benefit, and the prospects now of relief from surgery are quite remote. We do not know the location of the injury; there are no focal symptoms to guide us, and any operation which is now undertaken would be the merest guesswork. Even if we were able to locate the site of depression, the possibility of surgery affording relief is remote, because the secondary changes which come on in confirmed epilepsy, as well as the habit of having the convulsions, have been set up, and hence, if we were able to relieve the irritation at this time, it is probable that we would not cure the disorder.

The case is one that emphasizes the necessity of early surgical intervention where well marked brain symptoms follow a head injury; the earlier such procedure is undertaken, the greater the probability of relief.

WRITER'S CRAMP.

Our next case is that of a man thirty years old. His family history is free from neurotic heredity, and until about one year ago, when his

present trouble came on, he had enjoyed excellent health. For ten years past he has been a bookkeeper, which occupation he has industriously pursued, largely to the exclusion of physical exercise. This has not resulted in any impairment of his general health; his appetite, digestion, and nutrition are good. What little exercise he has obtained has been in walking from his home to his place of business, a short distance. In his work he has not been called upon to use his arms at all, and we find upon examination that while the muscles are fairly well developed, they are comparatively small for a man of his size. About one year ago he noticed a difficulty in writing. While he had formerly been able to handle a pen with facility, he now noted that he was writing with more effort than formerly. He grasped the pen firmly, and he observed that his handwriting had become somewhat cramped. At no time was there tremor, and he never experienced any pain in the forearm or hand. All that he did note was that when first taking up the pen he could employ the hand in writing with some difficulty, but that this gradually diminished; the rigidity of the muscles of the hand increased, and it became difficult because of this stiffness to move his fingers, so that very soon his writing was reduced to a whole-arm movement. Changing the position of the pen relieved for a time the spasm, but after a few minutes it was again necessary to change. The result was that his hand easily tired, and his occupation as a bookkeeper became increasingly difficult.

Examination shows that the hand and forearm, compared with its fellow, presents nothing abnormal. The tendon jerks of the wrist and elbow are the same upon both sides. Sensation both to touch and temperature is unaltered. There are no movements of the hand and arm which would cause this spasm, excepting that of grasping a pen and attempting to write. He can hold the pen, if he does not attempt to write, in the usual position, without bringing on the spasm. Careful palpation of the nerve reveals no tenderness. A perceptible tremor, absent in the left hand, but present in the right, is noted in the muscles of the forearm. It is a fine tremor, just perceptible, and is elicited by having him grasp the hand of the examiner and make moderate pressure upon it. This latter symptom is the only difference that can be noted between the two arms.

There are no marked general symptoms referable to the nervous system. He does not appear nor act like a nervous man, and there is distinct absence of all symptoms of hysteria and neurasthenia. His general health is good; he sleeps well, his bowels are regular, and his appetite and digestion are excellent.

The case which we have before us is one of professional cramp, variously styled scrivener's palsy, writer's cramp, etc. A better

designation, perhaps, would be occupation neurosis, because these disturbances of the fine coordinated muscles are observed in piano players, violin players, cigarmakers, telegraph operators, and indeed all of the occupations which require fine coordinated movements of the hands. Various theories have been advanced to account for them, none of which are satisfactory. In a few it seems to be dependent upon local changes in the nerves. We have tender points, and some of the symptoms of a peripheral neuritis. In another type of cases the phenomena are paralytic, and in others they are spasmodic. The paralytic and neuritic types are the most frequent. The least frequent of all are the clonic spasms, but the case we show you is a pure type of tonic spasm in the muscle, unattended with pain or any paralytic symptoms, is infrequent.

In a case reported by myself, that of a wood-carver, there was a distinct myositis. His trouble began with pain and swelling in the muscles attached to the internal condyle. As soon as he suspended his employment the inflammation would subside, and within a few days after he resumed his work it would return with increasing severity, until the pain and tenderness was so great that he had to give up. An examination showed that the muscle was distinctly swollen and tender upon pressure.

By many these occupation neuroses are placed among the peripheral affections of the nervous system and are believed to have a local origin. Others place them among the exhaustional states of the cortex of the brain. We see no reason why a single theory should be adopted in accounting for all cases, particularly in a disease presenting such a varying symptomatology as this. Possibly some of them may be dependent upon cortical involvement, while others may be local.

The prognosis is unfavorable so far as the patient continuing to pursue the same occupation is concerned—at least in severe cases. So far as the usefulness of the arm is concerned, and his ability to effectually use it in some other occupation, this constitutes no disability. The patient which we have before us has given up his occupation as a bookkeeper and is now engaged in work that requires comparatively little writing, with the exception of signing his name quite frequently during the day. Even this much writing causes some difficulty. He has not attempted to use any appliance except an unusually large penholder; from this he obtains some relief. We shall tell him to improve upon this by thrusting the penholder through a rubber ball or some other large object, in this way altering the positions of the muscles of the hand in writing, thus inhibiting to some extent the development of the cramp. Such a

contrivance, however, is at best only palliative, and in the severe cases it is necessary to give up the occupation altogether. In a few cases, particularly in the neurotic type where the symptoms have come on suddenly, the use of electricity and massage, with absolute rest from the occupation which precipitated the disorder, will effect a cure. In cases such as we are now discussing this treatment will have comparatively little effect, as the disease has come on slowly, it is characterized by spasm, and there is apparently no local condition to account for it. All of these patients are benefited by systematic exercise of the upper extremities—dumb-bells and Indian clubs, in the use of which the muscles of the hands and arms are vigorously exercised several times a day in coordinated movements. Several of my patients have obtained great relief by becoming enthusiastic golfers. This game requires the use of the upper extremities just to the degree adapted to people who have lived a sedentary life. The movements are necessarily coordinate, and they are combined with proper exercise of the lower extremities; and a large amount of time is passed in the open air.

THE PRACTICE OF MEDICINE AS A SOURCE OF INCOME.*

BY D. A. K. STEELE, M.D., CHICAGO,

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Hippocrates says: "God-like is the physician who is a philosopher;" and Aristotle says: "The philosopher should end with medicine, the physician begins with philosophy;" and when I consider my text, "The Practice of Medicine as a Source of Income," I suppose I am expected to philosophize on how to get a living out of the practice of medicine—sometimes a rather difficult proposition, a proposition that to many of my audience I have no doubt has given rise to the most serious study and contemplation, not merely from the standpoint of gaining wealth, fame, and position, all supremely desirable attainments in the practice of medicine, but also sometimes from the viewpoint of how to make ends meet: how to meet the wants of a growing family. For while it is true that many of us start out imbued with the idea that we are members of a learned profession, and feel chock-full of the science and art of curing disease, and are only anxious for an opportunity to alleviate the aches and pains of suffering humanity, we soon learn that there is a business side to the practice of medicine, and that we must live by, as well as for, our profession. While the

* Read before the Physicians' Club of Chicago, January, 1901.

altruistic side of our profession has been constantly presented to us during our pupilage, we soon learn that there is a commercial side to it as well, and that in the twentieth century physicians sell their knowledge to their patients at so much a visit or so much a consultation—the *quid pro quo* being commensurate with the services rendered. Our calling has its origin in human suffering. If there was no disease there would be no physicians. As Bishop Spaulding has said, "It is our unenviable lot to live like moral cannibals on the misfortunes and weaknesses of our fellow men." But in this position we have also the company of the lawyers and ministers, who, equally with ourselves, enjoy a similar cannibalistic feast off their fellow men's moral, mental, or physical infirmities; and we also soon learn that gratitude for our services is short-lived, for Shakespeare says: "Physicians mend or end us *secundum artem*, but although we sneer in health, when sick we call them to attend us without the least propensity to jeer." And another couplet reminds us "That when the devil was sick a saint was he, but when the devil was well, devil the saint was he."

It is with regret that I note a tendency in modern civilization, in the fierce struggle for existence on the part of the medical profession, to relax those rigid rules of regard for medical ethics and adherence to the golden rule that, during the early part of the last century, was a marked characteristic of our profession. I fear that the modern commercial spirit is driving out of our hearts and minds those high ideals of a physician that are so well portrayed in Dr. Roger Chillingworth, a character in Hawthorne's Scarlet Letter. He says: "Made up of earnest, studious, thoughtful, quiet years bestowed faithfully for increase of knowledge, faithfully too, for the advancement of human welfare. Men thoughtful for others, caring little for themselves; kind, just, true, and of constant if not warm affections." Such is a faithful picture of the early New England physician; quite different from the modern city doctor, the Chicago type, who already shows in a marked degree the degrading influence of modern commercial methods of dishonest commissions; of questionable newspaper interviews; of countless reprints for the allurement of prospective patients; and all the other things that specialists especially have done to degrade our profession and enhance their own income.

Division of labor makes everything cheap—man first of all; and the increase of specialties has had the effect to lower the standard of professional life and morals, and to interfere with the development in the profession of strong, many-sided personalities, lending dignity to their calling, and yet masters in their several departments. As Henry George says, "I am for men." My ideal is a doctor who is educated all over, whose heart is tender, whose hand is steady, whose

eye is clear, whose tongue is clean, whose brain is cultured, whose nerves are under perfect control—one who is broad-minded, and who does not look at disease through the narrow view of the specialist, who sees only from his own field of vision. I want a doctor whose knowledge of disease has been broadened and deepened and enriched by a wide and varied experience in general medicine, and sharpened and polished in some specialty afterwards—a doctor who has had a hospital experience, who mixes common sense with knowledge and experience, who has a heart swelling with sympathy for the poor sufferers who seek his aid, who carries a smiling face on his errands of mercy, who prefers substance to show, and who regards reputation as a priceless treasure, to be guarded against the alluring temptations of modern society, or the tempting bait of gold offered for the prostitution of his talents to the performance of illicit or illegal practices. I demand that he shall possess that innate monitor that we call conscience. And while it is true that there are many in our profession who accumulate wealth, who do not possess the characteristics I have portrayed, we must remember that there is much more in our lives than the mere acquisition of money.

In regard to "the practice of medicine as a source of income," there is a vast amount of ignorance on the part of the laity, and of the profession as well, that is usually rudely dispelled when the dead doctor's will is made public in the probate court. And general surprise is expressed that Dr. A——, who was reputed to have an income of from $20,000 to $30,000 a year, only left his family a $10,000 estate, and had allowed his life insurance to lapse a few months before his death; and that Dr. B——, who was a celebrated specialist, had left practically nothing to his family; and that Dr. C——, one of the best known general practitioners in the city, left only debts as a reminder of his activities.

I have taken some pains to ascertain the average incomes of doctors from their practice, and am of the firm conviction that professional incomes are greatly overestimated. And it is a wise physician who provides for the future needs of his family by carrying a liberal amount of reliable life insurance, as very often that is the only estate he leaves them, for his expenses fully keep pace with his increasing business — larger incomes demand better offices, a finer house, more servants, more social duties, and at the end of the year the balance-sheet shows very little on the side of net profit. The $2 to $3 per visit, or office consultation, $5 to $25 per consultation, $10 to $30 for obstetrics, and the larger fees provided for operative work in the "fee table," do not insure large incomes for many in the profession. The first five or ten years' practice is usually a struggle for existence,

the second ten years a competency, or good living, and the third ten years we are likely to be crowded out by the younger and more progressive element.

As a source of income, the practice of medicine offers much work, great anxiety, and moderate returns. Twenty-five per cent of medical graduates abandon the profession for other fields of labor within five years; twenty-five per cent exist by the practice of the profession; forty per cent make a comfortable living, and are in easy circumstances during their professional activity, but do not leave their families well provided for when death overtakes them; seven per cent accumulate a competency and enjoy a large income; while only about three per cent succeed in reaching very large incomes. You can count on the fingers of one hand the practitioners in Chicago whose incomes from practice exceed $30,000 per annum, and probably not more than a score exceed $20,000 a year.

Take the average general practitioner, and the incomes vary from $1500 to $3000. Office specialists—eye and ear, nose and throat—average $2000 to $6000; consulting physicians, $5000 to $15,000; not more than six leading physicians, $15,000 to $35,000; not more than six leading surgeons, $20,000 to $60,000; not more than six leading gynecologists, $10,000 to $20,000; not more than six leading office specialists, $10,000 to $15,000; ten average surgeons, $3000 to $10,000.

One's income may be enhanced in a variety of ways that are perfectly legitimate: such, for example, as increasing reputation by original work, by essays and discussions in medical societies, by affiliation with medical colleges in a teaching capacity, by becoming attached to the staff of a reputable hospital, by caring for the sick or injured of a corporation, by making life insurance examinations, etc. And it may be increased illegitimately by criminal curettements, by unnecessary operating, by useless visits, by exploiting cases in the public newspapers, by specialists' reprints for patients, by lending one's name to indorsement of proprietary remedies, etc. The old saying that "honesty is the best policy, but it keeps a man mighty poor," is exemplified in the medical profession, where we are constantly practicing preventive medicine, preventing epidemics, destroying the causes of disease, teaching the public the limitations of our art; and our honesty is rewarded by less disease, less sickness, a lowered death-rate, and the growth of numerous fads, such as Christian science, Dowieism, faith-cures, etc.

The laborer is worthy of his hire, and we owe a duty to ourselves, to our families, and to society, to put our services upon a business as well as a charitable basis. The public will place much the same value

upon your services that you do yourself. If you are careless or indifferent about collecting, your patrons will be careless and indifferent about paying.

Always have a straightforward and accurate understanding with your patients as to the value you place upon your services. Never tell a patient, when he offers to pay a bill, "Oh! never mind, to-morrow will do just as well." Now is the accepted time; to morrow may never come. Gratitude is short-lived. Our charges for professional services should be somewhat proportionate to the ability of the patient to pay, and to the responsibility involved in the services rendered in a given case. Keep a neat, legible set of books; keep your accounts posted up each week; present your bills monthly, and if they are not paid promptly, give them to an honest collector. Keep everything up in a businesslike way, and your patrons will esteem you more highly. By being businesslike in your dealings with patients, you will make your profession honored; you will make the practice of medicine a source of income; and you will derive the satisfaction, not only of the scientific pursuit of knowledge in the practice of our art, the keen enjoyment of original research, but the added satisfaction of deriving a living income from your efforts.

THE ARTIFICIAL ANASTOMOSIS OF THE PORTAL AND SYSTEMIC VEINS.

BY BYRON ROBINSON, B.S., M.D., CHICAGO.

Recently an operation has been presented to the profession by Mr. Rutherford Morrison. The plan of the operation is to produce artificial vascular anastomosis between the portal and venous systems at other points than the normal one at the rectum. The object of this operation is to draw the portal venous blood through the systemic venous system previous to its entrance into the liver. This operation, like all others, has forced physicians to better their anatomy. Surgery will always be the mother of practical anatomy. The abdomen is drained by two great venous systems, viz., the portal and systemic. The portal venous system practically drains the tractus intestinalis and its appendages, the liver, spleen, and pancreas. The systemic venous system practically drains the abdominal walls, the tractus urinarius, and the tractus genitalis. By the Morrison operation the portal venous blood is turned through other channels, when the liver, the chief glandular appendage of the tractus intestinalis, is afflicted with obstruction, as in hepatic sclerosis.

In the normal anatomy the portal and systemic venous systems

anastomose at the rectum and anus only. But the two venous systems may be made to anastomose artificially at other localities and vicariously act for each other. The most convenient method is by scarification and fixation of the omentum to the peritoneum. The veins of the portal system drain into the systemic veins. The best place to fix the omentum is to the anterior abdominal wall proximal to the umbilicus. This makes the superior and inferior epigastric veins the carriers of the portal venous blood. (*a*) The omentum can be and is found fixed in other localities; as distal to the umbilicus, where the inferior epigastric veins become the carriers of portal venous blood. (*b*) The omentum may become attached to the internal genitals, or to large tumors of the genitals, and thus the portal venous blood is carried through the genital veins, which are systemic. Hence post-mortem and clinical work shows that the portal venous system may be drained by anastomosis through the superior or inferior epigastric veins or through the genital veins. Also in operating it is common to see genital tumors nourished by the omentum, which is an anastomosis of the portal and systemic systems. In such cases the ovarian tumor affords the opportunity for an anastomosis like that of the rectum when both systems of veins are acting. Again, one sees in operating, dermoids (which are of ovarian origin) twisted off their pedicle and being nourished entirely by the omentum—a total change of venous system, viz., from the systemic to the portal. I have seen the omentum pass through the diaphragm, two layers of pleura, the thoracic wall (following sword thrust), and by adhesion exchange its blood with the blood of the thoracic wall. The liver frequently becomes by peritoneal perihepatic adhesions attached firmly to the distal surface of the diaphragm. Such peritoneal adhesions are well nourished, quite vascular, and serve as an example of rectal anastomosis between the portal system (liver) and the diaphragm (systemic system). The best example of perivisceral peritoneal adhesions occurs in the spleen, which I found in ninety per cent of some 500 adult autopsies surrounded by adhesions. However, the spleen is not a good organ to show or prove artificial anastomosis of the portal and systemic systems, because the spleen does not easily become fixed to the thoracic wall or the diaphragmatic wall on account of the frequent movements of respiration. The spleen is mostly fixed by adhesions to the omentum or the ligamentum phrenico-colicum—both structures drained by the portal system. Now, the omentum, or better the mesogastrium, is only one of the mesenteries of the viscera: however, it is connected with both the gastric veins and the inferior mesenteric veins, the two least-sized of the four portal veins, and hence is not only the most convenient but really the best mesentery of the portal system. The

mesogastrium is connected also to the superior mesenteric veins through the transverse mesocolon.

Operations should be so planned that the two greatest portal veins (superior mesenteric and splenic) should be drained. The best method to do this is to free the whole omentum and execute the following: (1) Scarify a segment of the omental and splenic surfaces and wrap the omentum about the spleen, fixing it securely with numbers of sutures. (2) Scarify another segment of the omental and mesenteric surfaces and fasten together with sutures as broad surfaces as possible. (3) Finally scarify another segment of the omental surface and the anterior peritoneal parietes and fix them together in broad areas. This method will drain by anastomosis the four great portal veins, viz.: (*a*) gastric and inferior mesenteric; (*b*) the spleen and superior mesenteric.

Post-mortem and clinical evidence proves that the portal systemic venous system may be artificially anastomosed at any point. However the most useful and vigorous artificial anastomosis is formed at the peripheries of both venous systems: (*a*) the best point of the systemic venous system is at the periphery of the superior and inferior epigastric veins (Schweiniger's vascular zone), whence the added portal blood may be carried through both superior and inferior epigastric veins; (*b*) the second best available point of the systemic venous system is the internal genitals, whence the added portal blood is carried through the ovarian veins. The best areas for artificial anastomosis of the portal system of veins are: (*a*) at the periphery of the omentum, or the mesogastrium, since the mesogastrium may drain the periphery of the gastric and inferior mesenteric veins and controls a wide periphery or area of portal blood; (*b*) the second best periphery of the superior mesenteric vein is utilized by fixing the omentum to the mesentery and anterior abdominal wall, as a bridge; (*c*) a third point to make artificial anastomosis is at the surface of the spleen; (*d*) a fourth point is at the surface of the liver; (*e*) a fifth point is secured by fixing the omentum to the ligamentum latum, whence the added portal blood would be carried through the plexus pampiniformis and spermaticus. All useful and vigorous artificial anastomoses between the portal and systemic venous systems must be secured by the coaptation and fixation by sutures of broad scarified surfaces.

So far artificial anastomosis of the portal and systemic veins has been accomplished practically by means of scarifying the peritoneal surfaces. However, post-mortem and clinical investigation proves that the peritoneum as such may be eliminated and the anastomosis completed by or through connective tissue. A mesentery consists of three layers, viz.: (*a*) a central or middle layer, the membrana mesenterii propria. This is the real mesentery, which carries the lymph and

blood-vessels, nerves, and connective, elastic, and muscular tissue, and prevents the viscera from entanglement. But it does not afford mechanical support, for that is performed by the abdominal wall. (*b*) On each side of the middle mesenteric layer is a peritoneal layer which covers the membrana mesenterii propria: this is the peritoneal mesentery. It serves for absorption and secreting purposes, besides preventing friction. Useful and vigorous anastomosis between the portal and systemic venous system may be accomplished by elevating extensive peritoneal flaps, either from the mesenteries on one or both sides, or from the abdominal parietes, and by means of the subserous areas of the periphery both venous systems may be coapted and fixed in coaptation. A segment of the mesentery denuded of one of its peritoneal layers could be fixed in coaptation to a segment of the ligamentum latum denuded of its peritoneal layer. This would coapt the plexus pampiniformis (systemic) with the periphery of the superior mesenteric vein (portal), producing a vigorous anastomosis. A segment of mesentery denuded of one of its peritoneal layers could be fixed in coaptation to the anterior or posterior abdominal parietes denuded of its parietal peritoneum. The dorsal parietal veins, vena cava, lumbar, and azygos are perhaps not so useful or convenient as the anterior parietal abdominal veins, the superior and inferior epigastric veins. Heretofore the Morrison operation has employed the veins at the proximal end of the abdomen for portal and systemic artificial anastomosis. But there is no doubt from post-mortem and clinical evidence that the veins of the distal end of the abdomen, by the addition of the genitals, will be found equally if not more useful in artificial anastomosis between the portal and systemic veins, than those of the proximal end.

ACCESSORY PORTAL VEINS.

In the above brief summary we stated that practically the portal and systemic venous systems anastomosed freely at the rectum. As long ago as 1859, Kiernan pointed out, in Tod and Bowman's works, that an anastomosis between the portal and venous systems, other than the rectal, existed. More recently others, as Retzius, Brane, Fenwick, Baumgarten, Sappey, Weitheimer, have demonstrated anastomotic points in various regions.

For example: (1) The gastric and esophageal veins anastomose, and they again anastomose with the azygos veins. (2) Anastomosis exists between the left renal and intestinal veins, especially those from the duodenum and colon. (3) It exists between the veins of the round ligament of the liver and the portal vein. (4) Anastomosis exists between the superficial branches of the portal veins of the liver and the phrenic

veins. (5) Anastomosis exists between small veins which collect the blood from the areolar tissue and peritoneal folds about the liver, and the portal veins, and hence the portal vein is placed in direct communication with the phrenic and azygos. (6) A non-obliterated vestige of a vein which passes from the round ligament of the liver to the left division of the portal vein. This vein of the round ligament collects blood from the abdominal wall (systemic) and pours into the portal. (7) Other small veins, called par-umbilical veins, exist on the surface of the round ligament, collecting blood from the abdominal wall, and empty into the portal. (8) The veins of the round ligament and par-umbilical veins connect with the epigastric veins and the veins of the abdominal wall, anastomosing with the portal. In certain diseased conditions of the vessels of the liver, obstructive in nature, these veins become enlarged, forming a collateral circulation. (9) Anastomosis exists between the portal and systemic veins through the veins of the pancreas. Hence the periphery of the portal veins and the periphery of the systemic veins have intimate and frequent anastomosis with each other.

THE following extraordinary case of fraud is reported in the *Journal of the American Medical Association:* A man aged thirty-five, described as a Dublin medical student, came to lodge in London and called on a doctor, minutely describing to him the symptoms of Bright's disease. He also brought urine for analysis, and it contained a large quantity of albumin. One day, when the doctor called, he appeared to be very drowsy and dangerously ill. Early on the following morning a man resembling the patient called on the doctor, but he was clean shaven and in good health, while the patient had a heavy mustache. The visitor posed as the brother of the patient, who, he said, had passed away in great suffering during the night. He was given a certificate of death. In pursuance of his usual practice the doctor visited the chamber of death. In the dimly-lighted room what appeared to be a human body was perceptible on the bed, but on examination the "corpse" proved to be a dummy composed of pillows, blankets, boots, and a poker. The man who obtained the certificate, on being questioned, said, "I am the dead body," and asserted that he had committed the deception to deceive his people into the belief that he was dead. A search in his box, however, showed that he had a life policy of $1000. For having made a false declaration for the purposes of death registration, he has been sentenced to nine months' imprisonment. It appears that the man was really ill and had a high temperature, but simulated the special symptoms of Bright's disease.

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EDITED BY FREDERICK W. MANN, M.D.

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EDITORIAL ARTICLES.

FOOD VALUES IN PRACTICAL LIFE.

The nutritive coefficients of food formulated in well arranged tables do not impress the popular imagination with the same force as do dietetic facts stated in homely and proverbial phrases. It will doubtless take a long time to disabuse the public mind of many false propositions which have impregnated it through the sanction of ancient practice, but it is also interesting to note how that much that was taught as science has had to be revised, and that in regard to what we shall eat the stomach is after all the final court of appeal. The lessons taught by daily life sometimes are at variance with those promulgated from the laboratory.

A recent work on dietetics, by Dr. Hutchinson, an English writer, has emphasized some of the facts of food values in an excellent way. The cherished notion that fish is a food for the brain worker has been consigned to oblivion, though many fish are cheap foods. Salmon at 35 cents a pound is cheaper than cod at 15 cents. Oysters are favored among fish foods for the convalescent, but twelve oysters have not the nutriment of one egg. So, too, is the white of one egg equal in value to three teaspoonfuls of most beef extracts. "It is pathetic," says the writer, "to see poor people in cases of illness paying a large price for so very small a return."

The question of vegetarianism may almost be said to be settled by modern dietetic science. The strict vegetarian to obtain a living wage of tissue-formers must almost fill his stomach to its utmost limit three times a day. It means a low standard of life, and weak resistance to disease. It is not without reason the more energetic races of the world have been meat eaters.

Alcohol in moderation is considered by this author to be a valuable aid in the running of the human machine. It is used up in the body;

it is a food, and spares the combustion of fat. If, however, it exceeds the quantity taken to act as a food, it acts as a poison, and the percentage of waste rises. Alluding to "three-bottle men," the author says: "One is tempted to think that the power of our tissue to oxidize alcohol has actually undergone a decline." The notion that "fusel oil" is the deleterious agent in poor whiskey is exploded, though a volatile oil is suspected. Dr. Hutchinson is a firm believer in bottled stout, and considers it the model soporific. "It is far better than opium," he says, "and produces more nearly natural sleep."

The diet of middle age must be carefully considered. The more rotund you become the easier it is to roll down the hill of life. Though it is better to eat too much than too little, yet remember you are probably eating enough for two. The proverb which says that the man who at forty does not know his own stomach is a fool, is probably true, but there are nevertheless numbers of fools.

EDITORIAL NOTES.

The Nature of Pernicious Anemia.

Pernicious anemia, according to a writer in the *Medical Press*, is not only a special form of anemia, but a definite infective disease localized in the mucosa of the alimentary canal. The infection is usually streptococcal, though its hemolytic properties are due to its "mixed" character. Oral sepsis from carionecrotic conditions of the teeth plays in this infection an essentially antecedent and concurrent part. This bacterial infection can be demonstrated in the ejecta and stomach contents; and in eighty per cent of cases gastric and intestinal symptoms, vomiting, retching, and diarrhea are said to be prominent. This is a view of the matter eminently rational, and doubtless contains a good deal of truth.

Tobacco Inconsistency.

The governor of Michigan has a cabinet whose members nearly all smoke large dark cigars without reproof from his excellency. Yet there is little doubt that the governor will sign the law making it criminal to sell or give away cigarettes. This is another example of swallowing the camel. In the State of Connecticut they do somewhat the same. In the school text-books the children are taught that a drop of nicotine will kill a full-grown cat in one minute, and that the smoker shuffles in his gait and loses ambition, and at the same time the same State spends $500 a year to encourage experiment in tobacco growing.

ITEMS AND NOTES.

THE smallpox epidemic at Glasgow is on the wane.

A TYPHOID epidemic has broken out in New Haven, Conn.

AT present an epidemic of typhoid fever prevails in Sheboygan, Wis.

AN epidemic of smallpox is reported in an orphan asylum at Albany.

A SOCIETY for the prevention of consumption has been organized in Buffalo.

IN the famine-stricken provinces of Russia typhus fever is reported as being rampant.

YELLOW FEVER has made its appearance at Port Royal, the entrance to Kingston, Jamaica.

AN institute for the instruction of children of defective intelligence has been opened in Rome.

TEN THOUSAND deaths from plague are reported to have occurred at Canton in the past six weeks.

DR. SAMUEL POZZI has been appointed professor of clinical gynecology in the University of Paris.

A PORTRAIT of the late Dr. William Pepper has been presented to the American Philosophical Society.

THE annual meeting of the New York Eclectic Medical Society was held in Fishkill Landing on April 4.

THE Philadelphia public schools are taking steps toward the introduction of a system of physical education.

CHARLES B. HARE, the Ann Arbor student supposed to be suffering from bubonic plague, is on the road to recovery.

THE State Board of Health of Louisiana has recommended the building and equipment of a sanatorium for tuberculosis.

THE students of Maryland Agricultural College have been dismissed owing to an outbreak of scarlet fever in that institution.

ONE HUNDRED AND FIFTY municipal physicians of Leipsic have gone on a strike for higher pay and more considerate treatment.

THE death of G. Ritter von Hochberger, the oldest medical practitioner in Austria, is announced. He was ninety-eight years of age.

DR. VINCENTE LLORENTE, one of the leading physicians in Madrid, has been appointed to fill the vacancy of physician to the royal family of Spain.

A COMMITTEE has been appointed by the New Orleans Parish Medical Society to study the mosquito as a means of propagating yellow fever.

JEFFERSON MEDICAL COLLEGE was recently presented by the students of that institution with a portrait of their professor of surgery, Dr. W. W. Keen.

DR. WILLIAM J. YOUMANS, for many years editor of *Popular Science Monthly*, died on April 20 at his home in Mt. Vernon, N. Y., of typhoid fever, after a short illness.

A PRIZE of $100 has been offered by a Massachusetts physician, Dr. J. B. Learned, for the best essay containing some method for inducing sleep without the use of drugs.

DR. A. W. ROGERS, of Paterson, N. J., who has been in active practice of his profession for over sixty years, has resigned from the Medical Board of the General Hospital of that city.

AN amendment to the Michigan medical bill has been proposed, providing that physicians who have practiced in the State for five years may be registered regardless of their qualifications.

ACCORDING to an exchange, a new preservative it is claimed has been discovered by a Danish dairyman, which is not injurious to the health, and which it is believed will revolutionize the shipping of butter and other perishable merchandise.

OWING to an epidemic of scarlet fever in Keene, N. H., the Cheshire National Bank of that town has taken the very unusual precaution to put in a sterilizing oven, in which all the money which passes through its hands is to be sterilized.

THE Sociedade das Sciencias Medicas of Lisbon has appointed a commission, consisting of Drs. Moraes Sarmenta, Carlos Franca, Adolpho de Sarmento, Miranda, and M. Athias, to study the means of prophylaxis against malaria in Portugal. The disease is said by Dr. Miguel Bombarda, editor of *A. Medicina Contemporanea*, to "decimate" the population of that country.

Dr. Donald Maclean, of Detroit, ex-president of the American Medical Association, has been honored by a large number of his old students uniting in the presentation of a gift to his daughter on her marriage. The contributors to the fund made the occasion one for expressing their loyalty and attachment to their old teacher.

An Industrial Sanatorium for the relief of consumptives has been incorporated in Denver. It has been planned that by utilizing the labor of patients it is expected that nearly all of the work of the institution will be performed, the entire sanatorium supplied with provisions, and a great variety of remunerative industries carried on.

The *Medical Record* is authority for the following: "On April 1, at a sitting of the Academy of Sciences, M. Curie, a chemist, separated a new gas from rhodium. The gas is intensely phosphorescent, and will glow for months in the dark. It was also announced that M. Naudon, a scientist, had found means of producing *x*-rays without electricity, by exposing a metal plate to the rays of the violet end of the spectrum."

According to an exchange, friends of the late Dr. Mary Harris Thompson, founder of the Chicago Hospital for Women and Children, which now bears her name, are preparing to further perpetuate her memory by having a marble bust of her made by Daniel Chester French, the Boston sculptor. The bust will find a permanent home in the Art Institute of Chicago. Dr. Thompson was the pioneer woman physician of Chicago.

Among the new Knights of Grace of the Order of the Hospital of St. John of Jerusalem in England will be found, says *The Lancet*, Mr. Frederick Treves, Mr. A. D. Fripp, and Colonel G. S. Ryerson, M.D., their appointments being in recognition of their services to the British troops in South Africa. Earl Roberts is also appointed to the order, as are the Duke of Portland, Mr. Langman, Mr. Alfred Moseley, and Mr. Van Alen, of New York.

The town of Dole, in the Jura Department, which is the birthplace of Pasteur, is about to prove that a prophet is not always without honor in his own country. A statue of the great discoverer is to be erected there during the course of the present year. The statue, which is by M. Antonin Carles, is in bronze, and stands on a conical pedestal eight meters high. Pasteur is represented as standing in an attitude of meditation. At the base of the monument is a group representing Humanity holding out two children to Pasteur, whilst Science offers him a palm.

A COMMISSION has been appointed by the Portuguese government to study the sleeping sickness in the Province of Angola. This commission, which will at the same time include amongst its scientific researches an inquiry into the etiology and the transmission of malaria, will be composed of the following members: Drs. Annibal Bettencourt, Ayres Jose Kopke Correa Pinto, Jose Gomes Rezande, jr., Joao Braz Gouveia, and Annibal Celestino Correa Mendes.

AMONG the members of the medical profession who have recently died are Dr. Olavide, of Madrid, a distinguished dermatologist and founder of the Histo-chemical and Bacteriological Museum and Laboratory of San Juan de Dios; Dr. Rufino Ferrando Fenoll, lecturer on anatomy in the University of Valencia, aged seventy; Baron Albert Gamba, member of the Royal Academy of Medicine of Turin; and Dr. Albrecht Berger, a distinguished ophthalmologist of Munich aged fifty-four.

THE post office authorities of Washington, says *American Medicine*, are now investigating the case of a doctor who advertised to cure deafness, without fail, for $18.50. Persons sending this amount were forwarded 2000 pills, with instructions to take one each day, and on no account to miss a day or the charm would be broken, and it would be necessary to start all over again. As the truth of the doctor's claim cannot be proved until the end of five and a half years, the authorities are puzzled what course to take.

THE *New York Medical Journal* is authority for the following: "Dr. Najib Said Taqy-ud-Din, who took his degree at the Maryland University last year, has been appointed acting assistant surgeon in the United States army and stationed at Columbus Barracks, Ohio. The Protestant Syrian College annually sends to the Maryland University two or three students. Dr. George D. Anawati, who is also a Syrian and who graduated with Dr. Taqy-ud-Din, returned to the Orient and is now practicing his profession in Egypt."

A SURGEON'S sewing machine, says *American Medicine*, was exhibited by Dr. Paul Michel at the late Congress of Medicine. The instrument is quite small, easily held in the hands, and has received the Barbier prize of the Faculte de Médicin. In future a surgeon need not slowly stitch the edges of a wound. With the left hand he keeps the two lips together, and with the right he fastens it by means of little clasps or "agrafes" of nickel having points which only penetrate the epidermis, and are not painful. These catches are applied to the machine, a species of pincer armed with them, which can be disinfected by heating it red-hot.

Russia, according to *American Medicine*, claims the distinction of first introducing women physicians. Marya Bokoff and Nadezhda Susloff are cited as pioneers who did much to open up medical instruction for their countrywomen. In 1870, Mme. Shanyawsky gave 50,000 rubles to be used for the instruction of women in the higher medical studies. These special courses were started in 1872, in connection with the Military Medical Academy. Twenty-four successful students were sent in 1877 to the seat of war during the Russo-Turkish campaign. They did so well that they received the imperial permission to call themselves "women physicians."

It is stated, says the *Philadelphia Medical Journal*, that Drs. Lange and Melzing have succeeded in taking photographs of the mucous membrane of the stomach in the living subject. A stomach-tube, sixty-six centimeters long, with a diameter of eleven millimeters, is introduced, having at the lower end an electric lamp and at the upper end a camera. The stomach is first emptied and washed and then distended with air. Then fifty pictures can be taken in rapid succession in from ten to fifteen minutes. By turning the apparatus on its axis all parts of the mucous membrane can be pictured. The photographs are about the size of a cherry stone, but they can be enlarged to any extent.

According to the *Journal of the American Medical Association*, the surgeon-general of the Marine Hospital Service has received an interesting report from the United States consul at Progresso, Yucatan, regarding the smallpox in that city and vicinity, and the difficulties encountered in enforcing vaccination. He states that a portion of the population consists of half-breeds known as mestizos and full-blooded Maya Indians. Regarding the opposition to vaccination, he writes as follows: "In their old pagan religion the great god 'Kak' was the god of fire and of smallpox, and as God-given the disease was not only to be received without question, but to a certain extent courted. Young children were sometimes actually carried to the sick one's bedside to receive the divine fire. This old belief, while not now expressed in words, still holds place in their inherent superstition, hence their indifference to the vaccination and the cases of smallpox that, despite all efforts, they will conceal amid the huts. Only when death occurs and the secret cannot be hid is the case made public. Fines and remonstrances are in vain with such people. They pay the one and listen to the other with equal impassivity. Compulsory isolation in a public pest-house was tried, but this seemed to turn the passive into open menacing resistance, and it was deemed best to modify the decree."

The *Philadelphia Medical Journal* quotes the story of a remarkable surgical operation told in a Danish medical periodical relative to the treatment of a patient who had become asphyxiated from the administration of chloroform. The operating surgeon was a certain Dr. Maag, but the method which he had employed had previously been suggested by Dr. Prus, of Lemberg. A laborer, twenty-seven years old, who had suffered from sciatica, was to be operated upon to relieve that trouble. Chloroform was given, and the operation begun. The patient struggled, however, and when the process of anesthesia was carried further he stopped breathing. Several expedients were resorted to in order to restore respiration, but in vain. There was no longer any pulse. In this emergency Dr. Maag opened the chest, detached portions of the third and fourth ribs two and a half inches long, and turned them back with a flap of flesh. Through the opening thus made he thrust his hand. The heart was firmly grasped and compressed rhythmically. After a few squeezes that organ began to beat naturally. It was necessary to employ compression again at times, and also to inflate the lungs artificially. But by these means the patient was kept alive for eleven and a half hours, and Dr. Maag is inclined to believe that the man would have recovered were it not that one of the pleuræ was accidentally punctured.

In response to a general call by Lord Minto, the governor-general of Canada, there was gathered at Ottawa recently, says the *Journal of the American Medical Association*, a large number of the prominent medical men of the Dominion as well as many private citizens. Every Province of the Dominion was represented. The object of the conference was to place the Canadian Association for the Prevention of Tuberculosis, which was organized at the last meeting of the Canadian Medical Association, at Ottawa, on a permanent and established basis. Sir William Hingston, Professor Adami, Sir James Grant, and Dr. Roddick took a prominent part in the proceedings. Professor Adami proposed that the Dominion government should have all immigrants examined for the purpose of curtailing the disease in that quarter. Dr. Chown, of Winnipeg, declared that the air of Winnipeg and Manitoba was free from the germs of tuberculosis. Dr. Lafferty, of Calgary, wants the government to erect sanitaria in the northwest, as that district is simply overrun with the tuberculous, fast becoming a menace to the residents. The association was organized with the Earl of Minto as honorary president and Sir James Grant as president. The association will petition the Dominion parliament, now in session, to grant aid for the building of sanitaria and also to establish a department of public health.

Professor Chiari, of Prague, has, according to the *British Medical Journal*, published in a pamphlet the address which he gave at the German Scientific and Medical Association last autumn, on the history of the study of pathological anatomy and its influence upon surgery and other allied branches of medicine. He points out that the foundation of the study was laid in the eighteenth century by Haen of Vienna, Albertini of Bologna, and John Hunter of London, and that before the birth of the nineteenth century there was some literature on the subject, and museums had been instituted here and there in Europe. All the work done, however, was really confined to the tissues and organs as such; there was no connection between the isolated facts which had been discovered, and pathological processes remained undiscovered, although the way had been marked out by the study of histology by Bichat, Majendie, Bell, Purkinje, and Muller. He gives to France the honor of having in the nineteenth century inaugurated the systematic study of pathological anatomy by the foundation of the Paris School of Physical Anatomy under Marest and Laennec. Professor Chiari then referred to the large number of workers who soon appeared upon the field: in Great Britain—Baillie, Hodgson, Abercrombie, Bright, Lee, Howship, and Astley Cooper; in France—Cruveilhier and Lobstein; in Germany—Meckel, Otto, and Henle. The two men who appeared upon the scene in the middle of the century to unite the work so ably done were Carl Rokitanski, who was appointed teacher of pathological anatomy in Vienna in 1844, and Rudolf Virchow, who in 1849 was made the first professor of the subject in Germany at Würzburg. That Rokitanski's theories upon general pathology have not stood the test of later years is not altogether to be wondered at, but his work upon special pathology is still a classic of classics. Through the introduction by Virchow of the cellular pathology the foundation of modern pathology was laid, and his name will remain a monument for all time to the thoroughness and exactness of his work and to the brilliance of his deductions. Later in the century Pasteur, Koch, and Ehrlich have added much to explain the processes which Virchow had observed. So important, Professor Chiari exclaims, has pathology now become that the wonder is that there ever were physicians and surgeons anterior to the days of Virchow.

NEW PUBLICATIONS.

A TEXT-BOOK OF OPHTHALMOLOGY.

The fact of the second edition of this work appearing in four years after the publication of the first edition proves the favor with which it has been received. Its author has certainly given to the medical student a manual which will inform him of all that is important in ophthalmology, and in a style that is clear, comprehensive, and remarkably condensed. In this last edition the writer's aim has been to give the latest and most approved treatment of the more common diseases of the eyes; and the general practitioner will gain much useful information in this line of work by a careful reading of this text-book.

A Text-book of Ophthalmology. By John W. Wright, A.M., M.D., Professor of Ophthalmology and Clinical Ophthalmology in the Ohio Medical University; Ophthalmologist to the Protestant Hospital, Columbus, Ohio, etc. Second Edition, Thoroughly Revised. With 117 Illustrations. Philadelphia: P. Blakiston's Son & Co.

DISEASES OF THE NOSE AND THROAT.

The fact that the first edition of Professor Kyle's work on diseases of the nose and throat was exhausted within a year is sufficient evidence of the merit of the book and of the appreciation it has had at the hands of the profession. The author has accordingly taken the opportunity of thoroughly revising the book and bringing the subject-matter absolutely down to date. The work presents the subject of diseases of the nose and throat in as concise a manner as is consistent with clearness, keeping in mind the needs of the student and general practitioner as well as those of the specialist. The illustrations are particularly fine, being chiefly original. With the practical purpose of the book in mind, extended consideration has been given to details of treatment, each disease being considered in full, and definite courses being laid down to meet special conditions and symptoms.

Diseases of the Nose and Throat. By D. Braden Kyle, M.D., Clinical Professor of Laryngology and Rhinology, Jefferson Medical College, Philadelphia, etc. Second Edition, Revised. Octavo, 646 Pages; Over 150 Illustrations and 6 Lithographic Plates. Philadelphia: W. B. Saunders & Co., 1901.

FEEDING AND NURSING THE BABY.

The author has compiled a volume which will find ready use as a handbook for ne laity in the care of children. The subjects considered are, first, those of pregnancy and motherhood. These contain information which will be found in a form readily available for the young mother. A series of following chapters deal with feeding. The great milk question is rationally discussed, and the artificial food-man is becomingly exhibited for what he is worth. The last chapter deals with the development of the child and his subsequent care in sickness and health. Dr. Douglas has presented a very useful book, one which will be found of value to the profession and of great use to the laity, provided they do not abuse its enlightening influence, and assume responsibilities of treatment beyond their capacity.

A Treatise on Feeding and Nursing the Baby for Mothers and Nurses. By Charles Douglas, M.D. With Fifty-five Illustrations, Twenty Half-tones, and Four Colored Plates. Detroit, Mich.: Baby Book Company, Publishers, 1901.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Indications for Operation in Floating Kidney.

The presence of a more or less movable tumor in the abdomen, constituted by the displaced kidney, when taken alone, according to G. Frank Lydston (*St. Louis Medical Review*, April 20, 1901), is not to be considered as an indication for surgical intervention. Should the diagnosis be in doubt, exploration and, if the condition be found to be floating kidney, nephropexy is indicated. In cases which are asymptomatic, save for the presence of the movable tumor, and the diagnosis is practicable without exploration, no surgical intervention is warrantable. The comparative safety of renal fixation is conceded. This, however, is not a warrant for operation. Any other position on this point would be as ridiculous as amputation for fracture in the lower third of the leg. Proper exercise, massage, and faradism of the abdominal walls, in conjunction with a properly applied abdominal supporter and retaining pad, often result in such marked relief, even where floating kidney produces symptoms other than the mere presence of the tumor, that a fair trial of such measures is indicated in most cases. In the presence of disturbance of the general health, great enlargement of the renal tumor suggestive of malignant or other neoplasmic change, renal colic from twisting or kinking of the ureter, severe digestive disturbance or morbid conditions of the urine incident to changes in the affected kidney, operation is indicated. In exceptional cases the psychic disturbance produced by a knowledge of the existence of the abdominal tumor is sufficient to warrant operation. It is necessary to apprise the patient, in case palliative measures are decided upon, of the possible necessity for an operation later on, a clear understanding upon this point by the physician accomplishing the double purpose of guarding his own reputation and interest and conserving the best interests of the patient.

As to the operation, the author is inclined to believe that of splitting the fibrous capsule of the kidney, separating it from the cortex in such a manner as to fashion three or four triangular flaps, which are to be stitched to the margins of the wound, with sufficient packing of the wound for four or five days with iodoform gauze and permanent suturing on the removal of the latter, will give the most satisfactory results in the majority of cases.

Treatment of Acute Peritonitis.

Byron Robinson (*American Journal of Surgery and Gynecology*, April, 1901) says there are two great principles in the treatment of acute peritonitis, viz.: (*a*) physiologic rest; (*b*) anatomic rest. Anatomic rest is sought by the patient. Pain forces him to rest, to lie in such position that the muscles adjacent to the peritoneum must be put at rest, no action. The abdominal muscles are stilled, and especially the psoas are put at rest, by flexing the thigh on the abdomen. Physiologic rest, however, is of vital importance in acute peritonitis. The opium treatment of Clark will fit exactly when the patient is not to be operated on. The writer says that all peristalsis should be avoided. This is done by allowing no food or fluid to pass the mouth. The patient should be kept absolutely still on the bed, and not allowed to get up for defecation or urination. Small doses of morphine sulphate ($\frac{1}{16}$ grain) should be given at intervals of two to four hours. Cold should be applied to the abdomen by a rubber tube coil, or heat by means of a large corn-meal poultice. Slaking of the thirst should be done by means of rectal injections; also allow the patient to apply wet gauze to the lips. Ice should not be allowed. The patient should be nourished per rectum with liquid foods. The writer says he has fed peritonitic patients for weeks per rectum, and by this method saved them. In an acute attack of appendicitis no more damaging remedy could be employed on a patient than to give a cathartic. The cathartic irritates violent peristalsis and incites terrible pain, and breaks up nature's only remedy to check peritonitis, viz., peritoneal exudates.

Radical Cure for Salivary Fistula.

Dejardin and Gulikers (*British Medical Journal*, April 13, 1901), in discussing the relative merits of the numerous operations that have been devised for the radical cure of fistula of Stenson's duct, give the preference to the identical methods of Langenbeck and Riberi. In each of these methods the portion of the duct behind the fistula is exposed and dissected out, and then passed directly into the mouth through a perforation made through the cheek in front of the masseter muscle. The authors state that this method is an excellent one, but that it is applicable only to cases in which the fistula involves the anterior portion of the canal. For cases in which much of the duct is destroyed or embedded in dense cicatricial tissue they suggest an operation on the following lines: An incision having been made in the direction of the duct, the outer portion of the canal, together with the masseteric prolongation of the parotid gland, is exposed by careful

dissection. The opposed margins of the gland and the masseter muscle are then separated, and after this has been done the inner surface of the masseter is detached from the outer surface of the ascending ramus of the mandible. Finally, the exposed and dissected portion of gland is thrust between the masseter and the bone, and through an orifice made in the buccal mucous membrane, to the margins of which it is fixed by suture.

Fatalities of Spinal Cocainization.

P. Reclus (*Journal of the American Medical Association*, April 13, 1901) states that spinal cocainization now has a record of six deaths in Europe. Goilav and Jonnesco, of Bucharest, have each reported a fatality. In the former's case 1.5 centigrammes of cocaine was injected and a leg amputated. Two hours later the temperature rose to 38° and 40° C., pulse 125, and death occurred in twenty hours. Juilliard has also reported a death the second day after an operation for hydrocele and inguinal hernia. The autopsy showed a ruptured aneurism of the Sylvian artery. The vasoconstriction induced by the cocaine may have been a factor in the premature rupture of the aneurism. Even in Tuffier's case, in which a mitral lesion and acute edema of the lung have been assigned as the cause of death, Reclus queries whether the action of the cocaine may not have been a factor in the evolution of the edema. Heumberg has also reported the death of a man of thirty in coma fifteen days after an operation under spinal cocainization. The autopsy disclosed hemorrhage in the cauda equina. In Dumont's case a febrile, tuberculous lad in bad general condition died two days after spinal cocainization, and no direct cause for the death could be discovered at the autopsy unless it were the cocaine. This total of six deaths to less than 2000 applications of spinal cocainization is not an encouraging record, he remarked in the conclusion of his address to the Paris Académie de Médecine, on March 19.

Ligation of the Carotid Artery as an Operation Preliminary to Resection of the Superior Maxilla.

Professor Carl Schlatter, of the University of Zurich, in an article under this heading in the *Philadelphia Medical Journal* of April 13, 1901, says that from his observations which he obtained from his resections of the superior maxilla, he finds that by the application of a preliminary ligature, the hemorrhage, as well as the danger from blood aspiration, is markedly diminished. This ligature is highly recommendable in all anemic individuals and in those whose vitality has been lowered from cachexia and hemorrhages, provided they do not suffer from dis-

eases of the blood-vessels, particularly arteriosclerosis. Exposing the bifurcation of the carotid in advanced cases is in itself indicated for the purpose of extirpating the lymphatic glands, which in this region are generally the first attacked by metastasis. In by far the most cases ligation of the external carotid alone will suffice; the latter should be a permanent ligation. Conducted aseptically, the procedure is without danger. The ligature can be applied by enlarging above the incision which has been made for exposing the bifurcation. In exceptional cases it becomes imperative to ligate the common carotid, which if done temporarily seems to be less dangerous than a permanent ligation.

The Treatment of Cancer of the Female Breast.

James Bell (*American Journal of Surgery and Gynecology*, April, 1901) says that the present status of this subject may be briefly stated in the following propositions: (1) Cancer is primarily a local disease, extending (*a*) by infiltration, (*b*) by extension along the lymphatics, and (*c*) by metastasis. (2) That the only treatment which offers the patient any hope is removal of the growth, which should be done early and completely, extirpating the whole of the infected structures by incisions through the healthy tissues, beyond the remotest extensions of the disease.

The writer says that a sufficiently early operation will effect a cure in the best sense of the term, and that in certain of the more advanced cases an operation which would remove all the axillary structures, including the blood-vessels and the brachial plexus, from the level of the first rib outwards, would effect a cure in many cases in which after any lesser operation early recurrence and hopeless, miserable, distressing, and painful invalidism in a short time are all that remains for the patient.

MEDICINE.

The Nerves of the Capillaries, with Remarks on Nerve Endings in Muscle.

C. Sihler (*Journal of Experimental Medicine*, March 25, 1901) concludes his essay as follows:

1. The endings of the motor nerves in striped muscle remain on the outside of the sarcolemma. Aside from the surfaces of contact of muscle and nerve fibers, the end fibers are covered down to their tips with the sheath of Schwann and are provided with nuclei. The precise condition of things at the places of contact of muscle and nerve is an unsolved problem of histology.

2. The ivy-like or festooned arrangement of motor nerves in the frog's muscle has been misinterpreted. Properly interpreted it demonstrates that the nerve fibers that are to influence the muscle fiber are not naked and that they need not be end fibers. It shows that mere contact between muscle fiber and nerve fiber is all that is necessary.

3. The sheath of Henle in the frog and in the smaller muscle fibers of the snake is open, thus permitting escape of the cerebrospinal fluid.

4. In other animals Henle's sheath extends over the end fibers of the motor nerve, and the cells lining it envelop the end fibrils. The so-called "Sohlensubstanz" of Kuhne is derived from the cells of Henle's sheath.

5. The terminal nerves in smooth muscle form a network entwining the bundles of muscle fibers. Sihler considers it improbable that each plain muscle fiber has a special terminal nerve fibril.

6. In muscular tissue fine non-medullated nerves, probably belonging to the centrifugal vasomotor system, proceed from the fasciculi of motor nerves. These nerves can be traced directly to a network of nerves surrounding the capillaries. From this network fine nucleated nerve fibers pass to the walls of the capillaries, with which they are very closely united.

7. The nerves supplying the capillaries connect also with sensory nerves and with nerves surrounding the larger blood-vessels, both arteries and veins.

8. The branches of the chorda tympani in the submaxillary gland do not pass to the gland cells, but they terminate on the capillaries.

9. In muscular and glandular tissues—and perhaps throughout the body—there is a vast peripheral nervous plexus belonging to the capillary blood-vessels. These nerves of the capillaries, which may perhaps be regarded as nutritive nerves, regulate the production and transudation of lymph, and are concerned in the mechanism of glandular secretion. They may be called into activity both by peripheral influences and by impulses received from the central nervous system and the sympathetic ganglia. They may influence, through their connections with the vasomotor nerves on the arteries and veins, the blood-supply to a part.

Diabetes Mellitus as a Cellular Fault.

Thomas C. Ely (*Philadelphia Medical Journal*, April 13, 1901) says that symptoms of this disease are of a well known nutritional type, resulting from daily loss by the genito-urinary route of ounces or pounds of grape sugar, which, instead of nourishing or affording

energy, escapes in the urine. This waste sugar must either be imperfectly prepared for cellular use and the cells cannot therefore accept it, or the cell protoplasm itself is faulty, is weak or diseased, and cannot accept a properly prepared article. The fault must be in the sugar preparation or in the sugar distribution in cell metabolism. In certain instances both may be true. In the former case—an imperfect elaboration of sugar—whether due to alimentary imperfections, to impaired functions of the liver, or pancreas and its ferments, or to vasomotor disturbance, the process is more simple and the pathology is more definite and well understood. It is with the latter only—cellular diabetes—that this paper is concerned, the fault being neither in the internal excretions or external secretions of the alimentary tract, the liver, or the pancreas, nor in the nervous system, and hence must rest in the protoplasm of the cell. The writer says that even when the entire sugar mechanism is otherwise perfect, sugar may appear in quantity in the urine on account of its non-acceptance by body cells, due to a fault of their protoplasm. If such may be the case, the etiology of many cases of diabetes is made plainer, and the stigma of our lack of the pathology of diabetes in all cases becomes more endurable, because the whole problem of cellular metabolism is still beyond definite comprehension. The writer says there seems to be five general reasons for considering diabetes as a fault of cellular protoplasm, viz., a biologic reason, a hereditary reason, a reason by exclusion, associate diseases, and a therapeutic reason.

The Medical Aspects of Carcinoma of the Breast, with a Note on the Spontaneous Disappearance of Secondary Growth.

Wm. Osler (*American Medicine*, April 13, 1901) gives the history of a number of cases of carcinoma of the breast in which spontaneous disappearance took place. He says that the spontaneous involution which we see occasionally in the primary growth in the breast affords an explanation of the disappearance of the symptoms in some of the cases with secondary metastases. Without any obvious reason a tumor of the breast, which may have been growing rapidly, ceases to increase in size, slowly and gradually a diminution takes place, the nipple becomes retracted, and in the course of a year or two there is a small, hard, puckered mass, about which the patient may forget, and even the attending physician may overlook. The metastases in the bones of the spine may undergo precisely similar shrinkage, with complete disappearance of the pressure symptoms.

The treatment of these cases of carcinoma of the breast, the

writer says, is most unsatisfactory. Morphine alone gives relief, and it often has to be used in increasing doses. It is one of the conditions in which the physician has to bow to the inevitable, and in which to relieve the pain is his plain duty.

Malaria in a Child of Three Weeks.

J. C. Josephson (*Medical Record*, April 20, 1901) reports a case of malaria occurring in a child of three weeks. The child's mother had lived in a malarial district in the South, and had had several attacks, the last one on the eighth puerperal day. Ever since then the child had been ailing. Every afternoon, about three or four o'clock, he would become blue and have a slight spasm. Then he would have a fever. He was very restless, took the breast badly, was pale and small, and had a very marasmic look. In the morning there would be no fever. The writer first saw him about the twelfth day of his illness, on November 30, 1900, in one of his typical attacks. The child was pale and bluish, and had a slight spasm of the muscles of the face. The breathing was jerky. The temperature was 102°. The spleen was much enlarged. He had been treated for consumption since he first became ill. There was absolutely nothing abnormal in the chest. The regular periodicity of the attacks, the mother's history, and the enlarged spleen, convinced Dr. Josephson that he had to do with a case of malaria, and five days' dosing with quinine—at first four grains a day and later two grains—cured the child entirely, and he has been flourishing ever since.

Gastroptosis and Jaundice.

Dutton Steele (*University Medical Magazine*, February, 1901) records the case of a single woman, aged thirty-nine, who had a severe abdominal attack of what might have been hepatic colic, followed by chronic gastroenteritis. Fourteen months after the onset of symptoms jaundice developed and steadily increased. She was the subject of gastroptosis, but not of enteroptosis, and on restoring the stomach to its place by a belt, the jaundice improved and finally disappeared.

Gastroptosis alone will not produce jaundice; experiments on the human subject showed that the bile would still flow into the duodenum when the pylorus was pulled down, and traction then made on the bile duct in the lesser omentum. If, however, the ducts are fixed by adhesions in the portal fissure, a very moderate degree of traction produced by a displaced pylorus may induce kinking of the ducts and jaundice. No reference to any case of jaundice produced by gas-

troptosis pure and simple is, the writer states, to be found in literature. Gastroptosis will therefore readily produce kinking of the ducts and jaundice in the presence of adhesions around the ducts, but cannot have this effect in their absence.

Dust as a Factor in Diseases of the Upper Respiratory Passages.

W. Scheppegrell (*American Medicine*, April 13, 1901) says that dust is one of the greatest factors in the causation of diseases of the upper respiratory passages, and that while dust may be a necessary evil in the hurry and rush of the twentieth century, still it may be very much diminished and the effects minimized by using proper precautions. Our houses, offices, and buildings should be so cleansed as to avoid the distribution of dust, and every precaution should be taken in cases of illness to prevent the vitiation of the air with germ-bearing dust. Our streets should be frequently watered and cleansed so as to prevent the dust from rising into the air, and the laws of hygiene should be enforced regarding spitting on the floors of public carriers, places of amusement, and even on the sidewalks. The respiratory passages should be kept in their normal condition as far as possible, and the apathy regarding chronic disorders of the upper respiratory passages overcome. Under such conditions, dust would soon become a far less prominent factor in diseases of the upper respiratory passages.

PATHOLOGY AND BACTERIOLOGY.

UNDER THE DIRECTION OF THADDEUS WALKER, M.D.,
Microscopist to Harper Hospital, Detroit.

Stain for Elastic Fibers in Sputum.

L. Michaelis (*Deut. Med. Woch.*, April 4, 1901) gives the results of mixing various basic stains with resorcin, all being equally effective in staining elastic fibers in sputum. He prefers fuchsin, resorcin, and ferric chloride, which produces a dark-blue stain. The suspicious part of the sputum is spread between two cover-glasses and allowed to dry in the air. A cover-glass is then immersed in a glass containing the stain, which can be used a long time. The alcohol in the staining solution acts as a fixing agent, and in half an hour the specimen is removed, rinsed in water, and placed in a three-per-cent hydrochloric acid solution until it appears colorless. It is then dried and covered with a drop of cedar oil. Examine with a microscope,

and the elastic fibers will be found stained a dark violet, while all other fibers, such as wool, cotton, and vegetable fibers from food, are not stained. This method gives us another means of making an early diagnosis in tuberculosis, as there is no element in the sputum of bronchitis which gives this reaction.

Tubercle Bacilli in Butter and Margarin.

Markl (*Wiener Klin. Woch.*, No. 10, 1901) states that during the past five years many investigators have found virulent tubercle bacilli in market butter. The question is, what percentage of market butter contains bacilli, and what is the danger from eating butter? Investigators differ widely in different localities, so the author made experiments with the market butter of Vienna. He used the Obermueller method, injecting the centrifugated melted butter into the abdominal cavity of animals. In all he inoculated forty-five guinea-pigs, and not one died of true tuberculosis or showed signs of the disease; one case proved to be pseudo-tuberculosis. Ten animals died of peritonitis, but none injected with margarin died from peritonitis. In the case of pseudo-tuberculosis he found a long acid bacillus taking Gram's stain, and which he considers the cause of pseudo-tuberculosis as well as Petri's and Hormann-Morgenroth's bacilli.

Test for a Trace of Albumin.

Praum (*Deut. Med. Woch.*, April 4, 1901) gives a neat method for determining the slightest trace of albumin in urine. He filters a few cubic centimeters of urine into a test-tube, then adds a few drops of the reagent (he uses a saturated solution of sulpho-salicylic acid), and gently mixes them; then filters more urine into the test-tube, allowing the filtrate to run down the sides of the tube until there is a good layer above the mixture. In this way the slightest cloudiness in the under layer can be determined by comparison with the upper layer. Having both fluids in the same container affords a better method for comparison than any other means.

Experimental Production of Cirrhosis of the Liver.

Marckwald (*Münch. Med. Woch.*, No. 13, 1901) made daily injections of small doses of antipyrin in frogs and rabbits, and caused a destruction of the liver cells which induced a cirrhosis of the liver itself.

If we compare the action of the antipyrin with the action of other

agents which have been shown to produce cirrhosis of the liver and the condition of the human cirrhotic liver, we may assume that every agent which has the power to destroy liver cells must in continued (chronic) action produce a cirrhosis of the liver, unless some condition outside the liver hinders its action.

THERAPEUTICS.

Treatment of Influenza.

L. Bourget (*British Medical Journal*, April 10, 1901) looks upon the treatment of influenza and like infections as unsatisfactory, and, indeed, practically the same now as it was fifty or one hundred years ago. Looking at the similarity between it (influenza) and rheumatism, inasmuch as it is more common in wet, cold months, and frequently follows colds, and the latter being an affection of serous membranes, while the former is one of mucous membranes, he has been led to try the effects of salicylic acid on it. He orders a liniment as follows:

℞	Ac. salicyl	1 drachm.
	Methyl. salicyl	2½ drachms.
	Ol. eucalypt	1 drachm, 20 minims.
	Ol. salviæ	1 minim.
	Ol. myristic	1 drachm, 20 minims.
	Ol. camph	1 ounce.
	Spr. juniper	4 ounces.

Misce.

The patient is put to bed, and this liniment is rubbed into the chest (back and front). The bedclothes are then drawn closely up to the chin. In a short time salicylic acid will be found in the urine. Bourget claims to have obtained very good results in this way, and finds that the pleasant odor of the liniment is very agreeable to have in the sick-room.

Paraffin Injection in Incontinence of Urine.

Dr. R. Gersuny (*Medical Press*, April 3, 1901) relates a case of incontinence of urine treated by the above named method. The patient was a woman, aged twenty-five, who after her first confinement had a large intravaginal fistula. As this was closed by operation, it was seen that the sphincter vesicæ did not act. When the patient came under the writer's notice she remained dry a few hours when lying down, but urine trickled away constantly on sitting, standing, or walking; the bladder, however, did not quite empty itself in this way. The treatment was begun by injecting a five-per-cent

solution of cocaine into the neighborhood of the urethral orifice, after which unguentum paraffin was injected submucously into a prolapsed fold of bladder mucous membrane lying in the urethra. The fold was now thickened to such an extent that it was not so easy to replace it in the bladder, and when there it did not come down again. The ointment was now injected in several places round the ostium urethræ. After about 3.5 cubic centimeters of paraffin ointment had been injected in this way a raw ring was felt surrounding the orifice of the urethra, and the mucous membrane raised in this way was now found to close the orifice. Water now injected into the bladder did not return, and on trying to empty the bladder two hours later she could not, and the catheter had to be used. In a week a second injection of paraffin was made, which again made a prominent ring around the urethral opening. After the second injection she was continent some hours, and after that violent tenesmus came on. This soon improved, however, and on her discharge, five days after the second injection, the patient remained dry for an hour and a half when walking about. Three months afterward the woman reported that she could retain her urine from four to six hours when going about, and from ten to twelve hours when lying down. She wetted herself no longer.

RHINOLOGY AND LARYNGOLOGY.

UNDER THE DIRECTION OF WADSWORTH WARREN, M.D.

Laryngeal Diseases Accompanying Pregnancy.

The physiological relation between the genital organs and the upper air-passages has been recognized for many years, and almost daily observations are furnished of instructive examples which bear upon this subject. Dr. L. Przedborski (*Archiv für Laryngol.*, Band xi, Heft 1) has furnished an article which deals at length with the laryngeal disturbances arising during, and associated with, pregnancy. Among nervous disturbances he has observed bilateral paralysis of the thyreoarytenoid muscles, unilateral paralysis of the right abductor of the glottis, and twice complete recurrent paralysis.

In the class of inflammatory processes most commonly produced in the larynx by pregnancy, the writer has observed in four cases laryngitis hemorrhagica, in two cases subglottic laryngitis, twice ozena of the larynx and trachea, and in one case mucous polyp on the true vocal cord. In one case the pregnancy favored the inception of laryngeal tuberculosis, followed later by invasion of the lungs.

The course of laryngeal disturbances arising during pregnancy is

apt to be, according to the author, quite protracted. Since for the most part such disturbances are chiefly due to the pregnancy, they are likely to continue till its end. Subglottic laryngitis and ozena of the trachea run a very obstinate course. The symptoms arising with these conditions, notably the decrease of the lumen of the glottis, demand the most constant watching on the part of physician and attendants of the patient, the dyspnea occasionally making tracheotomy necessary. Laryngitis hemorrhagica, though suggestive of tuberculosis, does not awaken much anxiety. The course of pulmonary tuberculosis, on the contrary, is apt to be very unfavorable in the latter months of pregnancy, the gradually increasing carbonic acid intoxication often leading to a premature birth, in which instance the woman rarely survives the end of the pregnancy.

The course of the nervous affections is generally a favorable one, except when the form of paresis is one in which respiration is so impaired by partial or complete closure of the glottis as to threaten suffocation.

Where pulmonary tuberculosis is so unfavorably affected by pregnancy, the induction of premature labor may be naturally indicated. If this be opposed, the carbonic acid intoxication may be combated by means of tracheotomy.

OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,

Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

Mastoid Disease with Unusual Symptoms.

Dr. J. A. Thompson reported, at the meeting of the Cincinnati Academy of Medicine, March 25, 1901, the case of a girl of thirteen, who had been in failing health for a number of days; and for several weeks her family physician had been treating her for a slight fever, which he regarded as a case of atypical typhoid. During this time the patient complained of an earache, increasing in intensity, with the pain much worse at night. The pain was in the mastoid process. On November 21, 1900, he was called, and found marked swelling and tenderness over the mastoid, and pain radiating over the whole temporal and parietal region. The drumhead was not even reddened. On November 26 a paracentesis was made, evacuating a small amount of pus from the attic. A few days later a spontaneous perforation of the drum at its posterior inferior quadrant took place, followed by a profuse purulent discharge. The swelling and redness over the mas-

toid promptly subsided, and on December 14 the patient was able to go to the doctor's office. On December 20 her symptoms became rapidly worse, with marked swelling, tenderness, and pain over the mastoid. On December 28 the typical mastoid operation was performed, and when the cells were exposed they were found filled with pus, granulation tissue, and polypi. The uncommon features in this case were the grave disease in the mastoid cells weeks before the tympanic cavity was involved, improvement in the general and local symptoms while extensive destruction of the bone was in progress, and death of the bone wholly out of proportion to the general or local symptoms, with a rapid healing of the wound without any of the complications and delays that usually attend extensive operations on necrotic bone.

Salicylate of Soda and Asperin in the Treatment of Rheumatic Sclerokeratitis.

Pfalz, of Düsseldorf (*Archives of Ophthalmology*, No. 2, 1901) considers the effect of salicylate of soda on sclerokeratitis as quite pathognomonic. He describes the condition as a circumscribed ciliary injection with sensitiveness to pressure, gradual extension through the entire periphery of the cornea, and photophobia, lacrimation, etc. Later delicate deep-lying opacities appear transiently in the deep layers of the corneal margin. Ordinarily these cases require three or more weeks to recover, but when salicylate of soda is given they usually recover in three or four days. The affection is apt to recur, become chronic, and to be complicated with iritis. Asperin, which does not act so promptly, may be given in place of salicylate of soda when this drug is not well borne.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Lecturer on Dermatology, Detroit College of Medicine.

Hyperacidity a Cause of Skin Diseases.

In a paper entitled as above, presented to the Section on Cutaneous Medicine and Surgery, at the fifty-first annual meeting of the American Medical Association (*Journal of the American Medical Association*, March 30, 1901), W. R. Inge Dalton, M.D., of New York City, says in part:

"There are other etiologic factors, such as the physiological process of reflex irritation, of dentition, hard fecal accumulations, preg-

nancy, epileptiform convulsions, shocks, worms, phimosis, adenoids, etc., causing, temporarily, tendencies to morbid conditions of the skin, but the *causa causarum*, the main etiologic element—I proclaim it boldly—is *hyperacidity of the chyle in the duodenum;* to this is due many ills to which the skin is heir. I have based my treatment upon this etiologic theory, and have met with phenomenal confirmation of its efficacy in my service at the Metropolitan Hospital, and in private practice, in the various forms of eczema, pemphigus, etc. I prescribe:

Naphthalin	1 grain.
Ipecac	1 grain.
Charcoal	1 1-2 grains.
Strychnia	
Pilocarpine	
Arsenious acid	āā 1-100 grain.

"The naphthalin causes antisepsis and inhibits the action of microorganisms through the ileum and large intestine, thereby arresting organic fermentative changes. The charcoal, besides being a splendid antiseptic, converts the anaerobic condition of putrefaction into compounds which are not destructive to the tissues; the mercury, whether it acts upon the liver or not, destroys the bacterial forms in the duodenum and jejunum and lowers the blood-pressure, thereby accelerating capillary circulation, thus favoring digestion and obviating putrefaction; the pilocarpine and ipecac exert, at the same time, their influences upon the sweat glands and lymphatics; and finally the strychnine tones up the vasomotors and the whole cutaneous nervous system. I do not claim that my remedy will kill the pathogenic microbes in every instance, but it *does* limit their morbid energies, and by so doing gains time for the conservative remedial agencies of the organism to perform their normal function. Some pathogenic bacteria, which elaborate toxins or ptomaines in septic or putrefactive conditions, are otherwise entirely innocuous. We can unquestionably lessen their virulent activities by altering the environments of the pathogenic organisms. The stomach must be in proper condition, and suitable diet enjoined; otherwise, no matter how specific the remedy may be, if the sympathetic nerve centers, governing metabolic processes, standing for assimilation, are held in check from ptomaine intoxication, no good effects can follow. Obstipation of the bowels must in every case be combated, as uric acid accumulates in the blood. Horbaczewski and Weintraud have proved that uric acid is formed wherever living matter exists, by the dissimilation of albuminoids as demonstrated by Kossel, passing through the intermediate stages of nuclein and xanthin to uric acid. I generally follow my tablets by giving sulphate of magnesia, carbonate of lithium, and phosphate of soda, in an effervescent form the next morning."

A Peculiar Disease of the Scalp.

Stuart Eldridge, acting assistant surgeon-general of U. S. M. H. S., in his report from Yokohama (*American Medicine*, Feb. 26, 1901) tells of a peculiar disease of the scalp. It was first noticed in Osaka, but has since spread rapidly throughout a large portion of central Japan. Its dissemination is attributed to the native barbers. It is found to be intensely contagious, and when stricken the victim becomes totally bald in a few days, whether permanently or not remains to be seen. The nature and progress of the disease is being investigated. Numbers of new cases are constantly being reported from all the larger towns in communication with Osaka. Though not of the gravity of ordinary quarantinable diseases, it is both interesting and important.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

Non-surgical Treatment of Fibroid Tumors of the Uterus.

A. H. Goelet (*Philadelphia Medical Journal*, April 20, 1901) says that his more recent observations have led him to conclude that interstitial fibroids of moderate size do sometimes disappear under the influence of electricity, aided by certain internal remedies. During the past year the author has observed such tumors disappear in three cases, and many others have diminished very much in size. He says that two years ago he was led to make the statement that he had never seen a fibroid removed by electricity except where it had caused sloughing and a discharge of the mass through the cervix. But recent observations have compelled him to change his views, and now that the limitations of electricity have come to be better understood, and by restricting its use to those cases where it has been observed to yield results, and operating, where permissible, in those cases where it could not be expected to accomplish anything, there are now fewer failures and consequently more satisfaction in dealing with these cases.

The writer says that ergot administered internally is certainly a valuable auxiliary to electricity in some instances. It acts by stimulating contraction of the muscular structure of the uterus and by compression of the blood-vessels, diminishing the supply of blood to the growth. It also has a controlling influence upon bleeding from the endometrium, which is sometimes an annoying symptom.

He says that in two instances at least he has known its influence combined with that of galvanic applications to the interior of the uterus to cause a breaking down of the intervening wall with sloughing of a large interstitial fibroid, which was subsequently delivered successfully through the uterus. The combination of liquor sedans with ergot acts well in painful conditions. He also says that iodide and bromide of potassium are useful sedatives in these conditions, and are certainly a material aid in some cases.

The Use of Hot Water Vaginal Douches.

J. H. Burtenshaw (*New York Medical Journal*, April 20, 1901) advises the following rules to be observed in all cases where a therapeutic douche is indicated:

1. Use a large-sized fountain syringe or douche can attached to a support three or four feet above the body.

2. Always lie flat on the back when taking a douche, with the hips slightly elevated and the shoulders depressed.

3. Always use at least three gallons of plain water as hot as can be borne (at a temperature of from 107° to 120° F.) for each douche.

4. Take the injection twice daily, morning and evening, except on two days preceding and two days following the menstrual period, when it should be omitted.

5. Rest for half an hour or an hour in the recumbent position after taking each douche.

The Toxemia of Pregnancy.

S. Marx (*Medical Record*, April 20, 1901) says that the toxemia of pregnancy is a complex condition depending on more than one factor. Many women go to term with albuminuria, without symptoms referable to a toxemia. When such symptoms arise they are not caused by the albumin present, but by faulty urea secretion. In the most desperate cases there is found neither albumin nor casts. Urea is always found markedly diminished in the so-called true toxemias of pregnancy, or urinemias. The writer makes a strong plea for a regular and methodical course of urea estimation in all cases of toxemia, or for the relegation to secondary importance of the time-honored examination for albumin. Progressive diminution of urea excretion, with or without albuminuria, is the sole indication for the induction of premature labor, which is especially indicated when conscientious medical treatment fails.

THE MEDICAL AGE

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ORIGINAL CONTRIBUTIONS.

THE LEGAL AND MEDICAL ASPECT OF FOOD ADULTERATION.*

BY H. W. WILEY, M.D.

A short time ago the newspapers were filled with accounts of wholesale poisoning in England from the use of beer which it was found contained arsenic. Arsenical compounds have long been known as almost perfect antiseptics, but so far as I know there has been no deliberate addition of arsenical salts to foods for preservation purposes. The most inordinate cupidity of the food adulterator has not led him so far as that. The presence of arsenic, therefore, in this beer, after first having been ascribed to its use as an antiseptic, was finally traced to the fact that grape-sugar, so-called—that is, a sugar made by the hydrolysis of starch with an acid—had been employed in part as a substitute for malt in the breweries. Further investigation showed, happily for us, that the grape-sugars which had produced this unfortunate effect were not, as was at first asserted, imported into England from this country. They were found to be of domestic manufacture, and it was shown that they had been made from potato starch, using oil of vitriol (sulphuric acid) as the hydrolyzing agent. The sulphur derived from iron pyrites which was employed in the manufacture of this acid was found to be arseniferous, and thus considerable quantities of arsenic found their way into the sulphuric acid and also into the grape-sugar made therefrom. I say happily for us this grape-sugar was not of American origin. In a letter lately received from Dr. Bernard Dyer, one of the most prominent public analysts of England, he says, writing under date of December 17:

"You probably saw in some of the newspapers a record of the fact that a number of people have suffered severely, and as it is alleged, in

*Read before the Society of Medical Jurisprudence, in New York, Jan. 14, 1901.

some cases fatally, from arsenical poisoning which has been traced to the use in the brewing of certain beers of glucose manufactured with impure sulphuric acid—*i.e.*, acid made from arsenical pyrites. I have myself found arsenic in several samples, though not in such quantities as to cause alarm. What would be interesting to know is whether such poisoning has been going on for a long time unsuspected, or whether the occurrence is due to some particular and unusually impure parcel of glucose. It will be, from a national point of view, no doubt a satisfaction to you to know that, although so much of our glucose is imported from America, it does not appear to have been American glucose that was at fault, the offending product appearing to have been manufactured in England." American glucose is manufactured with hydrochloric acid.

This injury to the public health from the drinking of beer in the Midland districts of Manchester and Liverpool was of sufficient magnitude to justify a public inquiry. There were more than 500 persons suffering from poisonous effects in Manchester alone at the end of November. A number of deaths occurred, although most of the cases recovered. The health officers of Salford, where a great number of cases occurred, found arsenic in one sample of glucose or grape sugar and in one sample of inverted sugar, due to the use of sulphuric acid in their manufacture.

The patients all seemed to be suffering from the disease which is described as peripheral neuritis. I cannot gather from the English journals complete statistics of all the cases which have been reported, but certainly more than 2000 such cases have been under treatment. All of the authors who have written on the matter do not attribute the effect solely to arsenic. One medical authority thinks it is due to the use on growing hops of Bordeaux mixture, which is a combination of salts of lime and copper, while others allege that it comes from the use of antiseptics, such as salicylic, sulphuric, and boracic acids, used in the beer or in cleaning the barrels that held it.

As a natural result public interest in England has been thoroughly aroused to the necessity of securing a better control of human foods. It is rather melancholy to contemplate the fact, but it seems that some such wholesale poisoning by adulterants will have to be experienced in this country before the public mind will be awakened to the necessity of the control by federal legislation of the manufacture and transportation of adulterated foods. It is surprising to find how little interest our people take in this matter, which stands so near to their health and even their prosperity. Measures which affect only small bodies of organized labor or insignificant manufacturing enterprises are brought before Congress and pushed to a successful issue, while

the great problem of the purity and wholesomeness of human food is not able to secure a hearing before the Congress of the United States.

In discussing the subject of food adulteration before this learned body I am impressed with the fact that only those points should be presented which touch on the one hand the health of the consumer, and on the other the statutes made and provided to regulate traffic in food adulterants. The existence of a harmless adulterant in food may on the one hand offend the statute, but on the other be no menace to health; while it is possible that a food may contain an injurious adulterant the use of which is not forbidden by any enactment. I need not call the attention of the legal members of this association to the many laws which have been made by the several States and corporations in regard to food adulteration. I would, however, like to call your attention to the classification of these laws in respect of their nature.

First, it may be said that the ostensible purpose of all laws of this kind is restrictive. Every one admits that the admixture of certain substances in foods may be practiced without detriment either to the purse or the health, and therefore the absolute prohibition of all adulteration would work hardship and injury to legitimate business. The following classification I believe will include all existing or proposed laws regulating food adulteration:

First, General Laws.—These include all laws which do not mention any article of food by name, but consist only of general principles, applicable to all food products. A type of these laws is shown in the Brosius bill now pending before the National House of Representatives, and its counterpart, the Mason bill, pending before the Senate of the United States. These two bills are identical in language and represent the results of many years of effort to secure national legislation. They have the full approval of three successive national pure food congresses and of large numbers of organized business associations, sanitary congresses, and scientific bodies throughout the United States. The nature of this bill is best shown by a few extracts from the definitions of food products which it contains:

> SEC. 5. . . . The term "food," as used herein, shall include all articles used for food, drink, confectionery, or condiment by man or domestic animals, whether simple, mixed, or compound. The term "misbranded," as used herein, shall apply to all drugs, or articles of food, or articles which enter into the composition of food, the package or label of which shall bear any statement regarding the ingredients or substances contained in such article, which statement shall be false or misleading in any particular, and to any food or drug product which is falsely branded as to the State, Territory, or country in which it is manufactured or produced.
>
> SEC. 6. That for purposes of this Act an article shall be deemed adulterated—
>
> In the case of food:
>
> *First.* If any substance or substances has or have been mixed and packed with it so

as to reduce or lower or injuriously affect its quality or strength, so that such product, when offered for sale, shall deceive or tend to deceive the purchaser.

Second. If any substance or substances has or have been substituted wholly or in part for the article, so that the product, when sold, shall deceive or tend to deceive the purchaser.

Third. If any valuable constituent of the article has been wholly or in part abstracted, so that the product, when sold, shall deceive or tend to deceive the purchaser.

Fourth. If it be an imitation of or offered for sale under the distinctive name of another article: *Provided,* That the term "distinctive name" shall not be construed as applying to any article sold or offered for sale under a name that has come into general use to indicate the class or kind of the article if the name be accompanied on the same label or brand with a statement of the place where said article has been manufactured or produced.

Fifth. If it be mixed, colored, powdered, or stained in a manner whereby damage or inferiority is concealed, so that such product, when sold, shall deceive or tend to deceive the purchaser.

Sixth. If it contain any added poisonous ingredient or any ingredient which may render such article injurious to the health of the person consuming it.

Seventh. If it be labeled or branded with intent so as to deceive or mislead the purchaser, or purport to be a foreign product when not so, or is an imitation, either in package or label, of another substance of a previously established name, or which has been trade-marked or patented.

Eighth. If it consists in whole or in part of a filthy, decomposed, or putrid animal or vegetable substance, or any portion of an animal unfit for food, whether manufactured or not, or if it is the product of a diseased animal, or one that has died otherwise than by slaughter.

Second, Discriminating Laws.—This class of legislation refers to those acts which are made specifically for certain articles of food. For the most part these laws contain nothing whatever of an objectionable nature, and the only cause of complaint in regard to them is that they discriminate between various food products. The spirit of fairness which has characterized and should continue to characterize legislation in this country requires that all similar products be treated alike in legislation. For this purpose the enactment of a general law, such as that mentioned above, would cover all possible contingencies and place all food products on exactly the same footing. The discriminating laws relate almost exclusively to dairy products. Great numbers of municipalities and States in this country have such discriminating laws.

Third, Prohibitive Laws.—Prohibition laws are of two kinds: (1) Those which prohibit the manufacture and sale of food products which are wholesome and nutritious; (2) laws which prohibit the manufacture and sale of added deleterious substances.

Aside from the fact that the latter class of laws is discriminating, there can be no objection to their enactment, provided the deleterious effect of the prohibited ingredient were established beyond any reasonable doubt. In point of fact, however, there have been very few

attempts to determine by impartial and competent experts the character of many of the prohibited articles, and their effect upon the human organism. Some of the articles most commonly prohibited are preservatives such as salicylic acid and formaldehyde, and mineral substances such as alum and lime. Interested parties may employ persons to prove or disprove the harmless or harmful character of these ingredients, and the result of their investigations usually coincides with the wishes of their employers, an event naturally to be expected. The Brosius bill, above referred to, makes provision for the impartial study of all these subjects by a commission to be appointed jointly by the President of the United States and the Secretary of Agriculture, in accordance with the following provision known as Section 7 of the bill:

That it shall be the duty of the Secretary of Agriculture to fix standards of food products when advisable, and to determine the wholesomeness or unwholesomeness of preservatives and other substances which are or may be added to foods, and to aid him in reaching just decisions in such matters he is authorized to call upon the Director of the Bureau of Chemistry and the chairman of the committee on food standards of the Association of Official Agricultural Chemists, and such physicians, not less than five, as the President of the United States shall select, three of whom shall be from the Medical Department of the Army, the Navy, and the Marine Hospital Service, and not less than five experts, to be selected by the Secretary of Agriculture by reason of their attainments in physiological chemistry, hygiene, commerce, and manufactures, to consider jointly the standards of all food products (within the meaning of this Act), and to study the effect of the preservatives and other substances added to food products on the health of the consumer; and when so determined and approved by the Secretary of Agriculture such standards shall guide the chemists of the Department of Agriculture in the performance of the duties imposed upon them by this Act and shall remain the standards before all the United States courts. It shall be the duty of the Secretary of Agriculture, either directly or through the Director of the Bureau of Chemistry and the chairman of the committee on food standards of the Association of Official Agricultural Chemists and medical officers and experts before mentioned, to confer with and consult, when so requested, the duly accredited representatives of all industries producing articles for which standards shall be established under the provisions of this Act.

Examples of the prohibitive laws of the first kind mentioned above are found in a few of the States and relate mostly to the manufacture and sale of oleomargarine. The injustice of such a prohibitive law or laws is so patent as to need no further illustration, and the courts of last resort have usually pronounced such restrictions of legitimate trade unconstitutional. An example of the prohibitive legislation referred to is shown in the following quotation made from an act passed a few years ago in the State of Pennsylvania:

SECTION 1. Be it enacted, etc., That no person, firm, or corporate body shall manufacture out of any oleaginous substance or any compound of the same, other than that produced from unadulterated milk or cream from the same, any article designed to take the place of butter or cheese produced from pure unadulterated milk or cream from the same, or of any imitation or adulterated butter or cheese, nor shall sell or offer for sale, or have in his, her, or their possession with intent to sell the same as an article of food.

Another striking instance of the operation of prohibitive legislation is shown in New York, where skim-milk is not allowed to be sold, I am told. This unwise provision causes many people to use beer as a substitute for skim-milk, although its food value is far inferior, and its alcoholic content cannot be said to be advantageous to young children. Skim-milk is a wholesome and nutritious food, and as such its sale and consumption should not be prohibited.

Fourth.—The fourth class of legislation in regard to food adulteration may be designated as *fiscal*, because under the pretense of raising revenue it lays a tax on wholesome food products. I do not include among such laws the internal revenue laws laying taxes on spirits and fermented beverages. These laws are what they pretend to be, viz., revenue producers. But the tax of two cents per pound which is placed on manufactured oleomargarine and the tax of four cents per barrel on mixed flour are examples of laws regulating food adulteration under the pretense of raising revenue. The authors of these laws do not deny that their purpose is restrictive and prohibitive and not fiscal. In times of necessity I am sure I should not oppose the taxation of food products to raise revenue to meet great exigencies in the history of our nation, but it is a pitiful pretense to see a paltry sum collected into the treasury by taxes on perfectly wholesome food products. There is no one more bitterly opposed to fraud in foods than I am, and no one who would punish more severely all venders who sell to innocent customers oleomargarine as butter, or maize meal as wheat flour. Such an attempt to obtain money under false pretenses should be punished not only by fine but by imprisonment. I never have been able to bring myself to the belief, however, that the correct way to prevent frauds of this kind is to tax the food products. On the other hand, I think such a tax is an inducement to fraud, and creates and conserves that which it pretends to detect and destroy.

Thoroughly obnoxious to fair-minded men, it seems to me, is the taxing of the process of coloration in one article of food and allowing it to be practiced in another with impunity, and with freedom from all restriction. Such enactments lack every element which appeals to the broad principles of justice and fair treatment.

Having thus summarized briefly the different classes of legislation which have been proposed for controlling the adulteration of foods, it is proper to add a classification of the different methods of adulteration practiced. Preliminary to this I may say that chemistry is the science which has chiefly to do with adulterants of foods. Not only does chemistry detect these adulterants, but alas! too often it shows how they can be made. It must be admitted, however, that chemistry is always willing to expiate the sins which are performed in her name,

and more than willing to help punish the sinner. Often one of the principal recommendations of a food adulterant is the difficulty of its detection, but no matter how great this difficulty may be, chemistry has never failed to supply the means to detect the fraud and bring the culprit to justice.

Broadly, food adulterants may be divided into two categories: (1) innocuous adulterants comprising those which are neutral or even nutritious and without bad effect upon the organism; (2) noxious adulterants consisting of that class of sophistications which are injurious directly or indirectly to health.

It is evident that according to circumstances many kinds of adulteration may be sometimes in one class and sometimes in the other. From the point of view of medical jurisprudence, therefore, the above classification is not important. In fact, I once heard a very distinguished expert say under oath that he believed that all adulterants, no matter how harmless they might seem, were injurious to health, because even if they did not injuriously affect the body they were an insult to the good taste and sensibilities of the person using them.

The principal processes of food adulteration may be classified as follows:

1. Adulteration secured by the elimination of some valuable constituent. The most common form of this adulteration perhaps is the sale of skim-milk or partially creamed milk as the genuine article.

It is well known that in milking a cow the portions of the milk secured at the last are richer in fat than those secured at the beginning. Hence, a cow may be partially milked and the product sold as whole milk, while the residue remaining in the udder may be subsequently extracted and masquerade as cream. Thus the very method of milking may become a means of adulteration.

2. The addition of some harmless diluent. Dairy products furnish another example of this practice, illustrated in the hoary joke of the well and the milk pail.

3. Adulteration by the substitution of a cheaper for a dearer product. This form of adulteration is illustrated in the preparation and sale of cottonseed oil as olive oil, of oleomargarine as butter, or of horse-flesh as beef.

4. Adulteration by coloring an inferior product to resemble a superior. This is a very common form of adulteration. It is shown in the coloring of green vegetables by copper salts; as, for instance, the French peas, which are very much liked and so commonly eaten; or in the coloring of butter, giving the butter of inferior quality the tint of a superior article; or in the coloring of oleomargarine so as to

resemble butter; and the coloring of preserved meats to match the natural tints.

5. Food adulteration by the addition of antiseptics. This is probably the most common of all forms of adulteration, and all perishable articles of food have become illustrations to a greater or less degree of this class.

In considering the problem relative to the influence of adulterated food products on health I realize the practical impossibility of defining in absolute terms the extent of the injury which may result in any given case. Food is the fundamental factor in individual and national advancement. It may be said, *cæteris paribus*, that that individual or nation is the strongest and best which is the best fed. Therefore, the study of the effect of food upon the health lies at the very basis of social and economic progress. It is well to safeguard the education of children and of youth; it is important that the religious and moral influences that surround them should be carefully considered; but before this comes the necessity of nourishment. Long before the infant knows good from evil, or noun from verb, it realizes the necessity of sustenance. Mistakes which are made at the beginning are difficult of correction, and therefore the character of the foods of infants and children is a problem of the first importance.

Unfortunately, or fortunately, fashionable civilized life has brought largely into discredit nature's method of nourishing infants, and hence we have thrown upon the market a legion of so-called infants' foods, many of which, I am sorry to say, are not exactly suited to the juvenile digestive functions. It may be stated with certainty that what would be considered a healthy and unadulterated food for an adult might with justice be considered an unwholesome and adulterated food for an infant.

There is perhaps no other subject to which the attention of the medical fraternity could be so profitably directed as to the careful study of the character of the infants' foods offered as a substitute for mothers' milk. Another point which should be taken into consideration here is that the injury produced by artificial or adulterated foods in the infant lasts probably through life, if life be continued to any length of time, or hastens the death of the child. On the other hand, the adult and healthy stomach may sustain without injury the exhibition of adulterated foods to a limited extent. Therefore, it is evident that the age limit is an important factor in the study of this subject. It is plain, without argument, that infants' food should correspond as nearly as possible to the average healthy milk of the mother. Its chemical composition can be closely imitated in the artificial foods,

which of course in the case of infants should be the milk of the cow or other domesticated animal, modified to resemble, as nearly as possible, the mean composition of mothers' milk.

In the case of adulterated foods the questions which arise are extremely complicated. I have just alluded to the fact that the healthy adult stomach can bear with impunity the exhibition of adulterants, at least for a time. It is hardly fair, however, to assume from this fact that such adulterants are harmless. Rather should we judge them from their accumulative effect—that is, the final effect which their continued use would produce. They must also be judged largely from the effect which they will have upon digestive systems disordered or weakened by disease or advancing years. In other words, the duty of the law and of the medical profession is to protect the weak and the helpless rather than the strong and independent. It is safe, therefore, to predicate this rule, viz., that that form of adulteration which by any final action upon a healthy organism or by any immediate action upon a weakened organism produces harmful effects should be prohibited. On the other hand, those forms of adulterants which are plainly indicated upon the label of the food, and therefore work no deception upon the purchaser, may be permitted, providing they do not, under the above circumstances, produce any injurious effects.

It may be well at this point to state in detail a few of the forms of adulterants which typify the above statement.

I will first call attention to the fact that in my opinion there are some forms of adulterants which are not injurious to health. In this connection I may mention the food product known as glucose. Glucose is a term applied to a mixture of sugars derived from starch by hydrolysis. The hydrolytic effects are produced usually by a mineral acid, as, for example, sulphuric or hydrochloric acid. Now it is perfectly evident that the hydrolysis of starch cannot produce an injurious substance except when conducted in an improper manner. In the natural process of digestion starch, which is one of the most important foods, is hydrolyzed first by the saliva and finally by the secretions of the small intestine, particularly that of the pancreas. The final products are the same as those produced by artificial hydrolysis. In my opinion, therefore, well made glucose is a wholesome and nutritious food. When mixed with honey it is both palatable and nutritious, and this mixture is one of the most common forms of honey adulteration. Such an adulteration is to be condemned in the most unmeasured terms, but not because of the unwholesomeness of the product. If, on the other hand, glucose be manufactured with sulphuric acid containing a trace of arsenic, severe poisoning cases may result, as has been already noted in the case of the beer poisoning at Manchester.

The food fats of healthy animals, such as lard and tallow, cannot be regarded as unwholesome products either when consumed in connection with other portions of the carcass or as separate foods. These fats are universally employed in our kitchen, and there is no reason for believing that when they are combined to form a pure article, as oleomargarine, they possess any unwholesome properties. The fraudulent sale of oleomargarine as butter cannot be too severely condemned, but, as is the case with glucose, not on account of unwholesomeness. The same is true of the many vegetable oils, such as the oil of cottonseed, sunflower oil, and peanut oil, which have been largely employed as salad dressings in the place of olive oil. The adulteration of olive oil with these bodies is most reprehensible, but, again, the objections thereto cannot rest on hygienic grounds. But I will not dwell longer on this form of harmless adulterants, since we are principally interested in the present instance with that other form of adulterants which directly or indirectly, sooner or later, produce injurious effects.

Among these may be reckoned a great many of the artificial colors. I have already spoken of the use of mineral salts, such as those of copper and zinc, for preserving the green color of vegetable foods. Many coal-tar colors are used for similar purposes, especially with animal products. A large list of such colors might be mentioned for use with fresh and preserved meats and with dairy products. Formerly white butter was colored yellow, to resemble the more desirable varieties, by the use of a vegetable substance called annatto. Lately this vegetable color, which by most persons is considered harmless has been almost entirely superseded by yellow coal-tar colors; in fact, it is difficult to obtain in the open market at the present day butter which has not been artificially colored. These coal-tar colors when taken in considerable quantities produce serious disturbances of the digestive organs. In the minute quantities employed it is probable that these colors are harmless, but the burden of proof rests upon those who use them; the presumption of guilt lies upon them. It is easy to extract from the quantity of butter used by a hungry man at an ordinary meal a sufficient quantity of this coloring matter to dye a large tuft of white silk a beautiful saffron. This coloring matter is absolutely indigestible, and thus it is fair to assume that when it has been absorbed into the system it is eliminated slowly and with difficulty. The coloring of butter artificially is only an excuse for poor dairying, since if milk cows be properly fed they will produce the year round a rich yellow cream, giving a delicious butter of the most delicate natural tint. It is unfortunate that the public taste has been so educated, or perhaps better, vitiated, in the use of artificially colored

butter, that the more delicate tint of the natural article is a bar to its sale.

By far the most numerous and dangerous of the deleterious substances in foods are those which are added to prevent decay. The character of all common antiseptics which have been used for food preservation, and the methods of detecting them in foods, have been very thoroughly investigated by the Division of Chemistry of the Department of Agriculture.

In all, sixty-seven different samples of antiseptics which are advertised in the market as being effective have lately been examined. Of these thirty-three contained borax or boric acid; eight were sulphites of sodium, potassium, or calcium; five contained salicylic acid or its sodium salts; four benzoic acid or its sodium salts; one was a mixture of boric and salicylic acids; one, boric acid and ammonium fluoride; three, formaldehyde; two, pyroligneous acid; one, ammonium fluoride; and one, beta-naphthol.

From the above statement it will be seen that one-half of the antiseptics offered for sale consist of borax or boric acid. In passing, I may say that of all the common preservatives employed boric acid or its compounds is least objectionable. In fact, I will even go so far as to say that I would not see much objection to the use of borax in certain food products if the antiseptic and the quantity employed in each case were plainly described on the label. In other words, it does not appear from the evidence at our disposal that small quantities of borax exercise any injurious effects upon the healthy adult. The question of what effect it would have upon the weakened organism or upon infants is reserved for further consideration.

The next most abundant class of antiseptics is composed of the sulphites. Sulphurous acid is a well known preservative, and its efficiency in this direction when combined with a base is but little diminished. The sulphites as a rule are easily soluble, and these are readily mixed with moist or liquid food products. In the form of a fine powder sulphites are easily applied to smooth surfaces such as meats, and with very happy effects in preventing decay.

By far the most objectionable of the antiseptics contained in the sixty-seven samples referred to is salicylic acid. As a preservative substance salicylic acid probably is to be preferred to any other if its effects upon digestion are not taken into account. It is cheap, white in a powder, or colorless in solution, almost tasteless, and extremely effective as a germicide. Its use, however, even in small quantities, is to be unqualifiedly condemned. It deranges digestion, interferes with assimilation, and exercises a generally deleterious effect upon the system.

It must not be supposed that in buying sixty seven samples in the open market we secured every variety of preservative manufactured. There are many which are not on the list, notably saccharin and nitrate of potassium. Of these saccharin is highly objectionable, while nitrate of potassium in condimental doses may be permitted. Formaldehyde has lately come into prominent use as a preservative of milk and cream. The quantities employed are minute, but there is no doubt of the highly injurious effects of even minute quantities upon infants and weakened adults. The temptation to keep the baby's milk sweet by the addition of a little formaldehyde is indeed great, but it should be resisted.

The use of fluorin as a preservative is somewhat dangerous, and fluorides should be rigorously excluded, at least until it is demonstrated that they are harmless.

The preservatives above referred to are often sold under trade names which give no clear idea of their composition.

The sale of injurious substances under such fanciful names is a crime against the community, and those who engage in it ought to be adequately punished.

I have already called attention to the fact that if the pure food legislation now pending should be enacted by Congress, the Secretary of Agriculture will be empowered, with the assistance of a board of experts, to study carefully in an unbiased way all substances alleged to be deleterious to the health. When such a study as this is completed the medical problems involved in this matter will be more easy of solution. I almost hesitate to say anything in regard to the legal difficulties which attend the securing of pure food. In the present state of affairs there is such a difference in State and municipal laws as to constitute a perfect legal maze. Manufacturers and dealers in sophisticated goods who wish to be honest, and we may assume that they all do, are confronted with a different state of affairs in almost every State of the Union. One of the strongest reasons for pure food legislation lies in the fact that such legislation would be accepted as a standard or guide in the making of new laws, and would also be a potent factor in securing modifications of all existing laws so as to approach a harmonious system.

Another matter which is of interest from a legal and medical point of view is the method, now generally in vogue, of employing experts. It is evident that the best result from expert testimony will be reached only when the court and not the litigant is the employing party. What we want in such testimony is facts, and these are difficult to get from *ex parte* evidence, even if it be of an expert character. It appears to me, therefore, that the best service which this association can render

just now to the cause of pure food would be to secure the enactment of the Brosius bill, or some similar measure, into a law. In my opinion there is no public agitation which will result in greater good than that which relates to the purity of foods. Life is the strongest passion of the race, and yet we find ourselves taking little interest in that factor, which more than any other affects and lengthens all our lives. Pure food, well prepared and well digested, will add many years to the average life of man, while at the same time it will make his life freer from disease and more productive of good; his power will be conserved; his happiness increased; and his sojourn on earth made more useful and grateful in every way.

IMPORTANCE OF CLINICAL TEACHING—PULMONARY TUBERCULOSIS.*

BY LOUIS FAUGERES BISHOP, M.D.

We begin this afternoon formal study for the season, and I have chosen to give my part of the teaching in the form of clinical lectures on patients in the wards. I have done this because I believe that this form of teaching is not only the most instructive, but it is a form which impresses itself forcibly upon the mind. There is no physician who does not look back upon some cases which he has seen as a student as the most vivid pictures of disease of his whole experience, and you will also find it true that the patient who has been right before you and the cases that you now follow will be the ones that you will remember.

This is true not only because the cases themselves are important, but because they come to you when your mind is fresh to the subject of medicine, and therefore capable of deep impressions. I know this was true with myself; I can recall more clearly some cases I saw when a student, after studying medicine for only a year or two, than I can many of the cases that I see at the present time.

Clinical medicine is something different from medicine in books. It is different from the study of pathology or the study of therapeutics as you get it in the compendium. Medicine has never really been written down. A great many men have prepared treatises on disease, and the treatment of disease, but every case is a study in itself, and the treatment of every case must be studied by itself. Those who think they can learn medicine as one learns to play the piano, or as you would learn dressmaking, or some other art, are very much mistaken. What we learn from our books and our classes are general

*A clinical lecture delivered at the Colored Hospital, New York City, Sept. 14, 1900.

principles. The application of these principles we must find by actual practice and observation. We cultivate not so much our knowledge —that is, our information and our storehouse of facts—as we train ourselves to appreciate conditions and to meet them as they arise.

The most important accomplishment in medicine from the physician's standpoint is correct diagnosis. Diagnosis is not confined only to physicians, but nurses also must learn to diagnose, not so much the disease as a whole, as conditions of patients at different times. The nurse must learn to diagnose a failing pulse. She must diagnose convulsions, delirium, nausea, constipation, and dyspnea. She must learn to recognize conditions and describe them correctly. The physician's duty is to diagnose disease and make plans for its treatment.

This afternoon we have come into this ward for our preliminary lecture, because I want to impress upon your minds that pulmonary tuberculosis is not different from other diseases. For sanitary reasons we isolate the patients in this pavilion; for therapeutic reasons we give them more liberty; we keep them out-of-doors; we do not make invalids of them any more than we can help; we treat them somewhat differently. But pulmonary tuberculosis is a disease that not only resembles other diseases, but in its symptoms mimics other diseases in nearly all their phases; so it is a good disease in which to give you your first instruction as to the observation of patients.

Case 1.—We will take this man as a typical case of a certain form of tuberculosis that is a little different from the majority of cases. His history extends back to last March. Then he took cold and began to cough; the cough continued with no particular symptoms of any other kind until about two and one-half months ago, when he lost his voice. He has not spit up any blood, but lately he has had night sweats occasionally; he is somewhat short of breath. He has lost a great deal in weight. We thus have a man who after no particular warning developed a cough which continued with increasing impairment of health, and which has finally led to a loss of his voice. His appetite has been fairly good and his expectoration moderate in amonnt. He has lost, as I said, a great deal of weight, and his appearance is somewhat different from some other patients that you have seen—that is, he does not look as sick as some others, and his general condition is fairly good. While he is quite short of breath, note that when he first came in he was much more so.

Physical examination shows extensive involvement of the lungs and infiltration out of all proportion to the general condition of the patient. His cough has not been a prominent symptom of his disease, although he has had some cough right along.

What I am leading up to is that this man is suffering from tuberculosis in its purest form; he has an involvement of the lungs that is to a great extent purely tubercular; there are small tubercular nodules scattered all through the lungs in great abundance, but the bronchi are not much involved, and he has not to any extent suffered from the infection of the lung by other classes of germs; so he is really suffering from a diffused tuberculosis of the lung. At times he has been worse and showed large patches of tubercular pneumonia; bronchitis has not been very marked. I should also state that the larynx has become involved in the tubercular process.

The cough of patients suffering from pulmonary tuberculosis is to a great extent a question of the bronchitis, and this usually follows from the presence of tuberculosis in the lung. What makes the patient cough is the irritation of the complicating bronchitis. A tuberculous lung is an inflammation of the lung tissue. This, as a rule, leads to a bronchitis, and the bronchitis causes cough. What happens to a patient when he goes to a drier climate is that the dry air cures to a great extent this bronchitis, and in that way the cough is improved, the irritation caused by coughing is removed, and the lung is given a chance to heal. This and the out-of-door life are the chief advantages of a dry and even climate.

A person can have a tuberculous lung for a very long time without any cough, providing he escapes this complicating bronchitis. What makes our patients worse very often is the infection of the lung by other germs than the tubercle bacillus. This we call a mixed infection, and is a very serious matter indeed; it increases the temperature; it increases the destruction of lung tissue; and it puts the patient into a condition of septic poisoning.

Pure tuberculosis causes temperature, but it does not cause the extreme temperature with the sweating, emaciation and weakness, and loss of appetite that we so often meet in these wards.

To confirm the opinion that I have expressed, that this man is suffering from a purer tuberculosis than most other cases, is his statement that his appetite has remained fairly good. His temperature, though high and irregular, does not show those extreme variations that are seen in other patients with his degree of involvement of the lungs in this ward. This is because he is not suffering much from sepsis. He is suffering from a widely extended tuberculosis of the lung with a complicating tubercular pneumonia. The pneumonic element has cleared up to a great extent since he has been here; for that reason his breath is better, and the lung on the left side, which was markedly congested when he first came in, is now cleaner, and the man is distinctly better than when he first came here. He is a patient

who will do fairly well as long as he can escape acute inflammation and the suppurative processes in the lung that do so much damage to some of the others.

Case 2. — This man illustrates an entirely different mode of the beginning of tuberculosis. The first patient began with a cough and merely drifted into his present condition. This man, on the other hand, gives a history of a sudden and severe illness. He was in perfectly good health and attending to his work, when one day he was seized with a severe pain in his side and back. After that he was quite sick and was laid up in bed with a severe illness. The nature of this illness we do not know from any account of a physician, but from what I can make out from the history he had an attack of pleurisy. From this attack of pleurisy he recovered, but during his convalescence he one day began spitting blood. Since then he has gone on with more or less cough and expectoration, and has brought up blood on a great many occasions. For the last few weeks he has been running down quite rapidly.

Now you will observe that his history goes over a course of fourteen months, yet it is only in the last two months that he has been losing ground very rapidly. He says he lost fifty pounds in three weeks. The mathematics of that statement, of course, we cannot confirm, but he has been running down a great deal lately. What happened to this man is this: He had an attack of pleurisy with effusion, such as a great many other people have who recover. I believe that he had a great deal of effusion, because he tells me he had great shortness of breath. After the fluid went away the lung was more or less crippled, and this became the site of an infection with the tubercle bacillus. These cases following pleurisy with effusion are different in their course from those that arise as a primary disease. I believe that these patients have not the same susceptibility to tuberculosis that others have. What I mean is this: they have been attacked with tuberculosis because they have been crippled by another disease, while these other patients are attacked while apparently in good health. It is a clinical fact that these patients show a greater resistance.

I have a patient whom I have known for five years. The following is his history: He had a pleurisy with effusion, followed after a short time by a tubercular pneumonia. He spat up blood over a period of a number of months, and yet that man is alive and able to do his work. The pleurisy acts very often as a sort of conservative process. The lung is adherent to the chest wall and has not much movement —the lung, as it were, is in a splint, and the tubercular process does not spread very rapidly. You know that a Chicago surgeon has

recommended and carried out for tuberculosis the practice of introducing into the pleural cavity nitrogen gas with the idea of letting the lung contract, putting it at rest. He seems to have some reason and seems to show considerable success by this procedure. Very few physicians approve of it, and we have not tried it, but here nature is doing something of the same kind. This lung is adherent and bound down to the chest wall; there is very little movement at the apex, and the lung is as it were isolated. The patient I just spoke of five years ago went through the same history; he had numerous bacilli in the sputum, but has gone on with a laborious occupation for five years. He still spits blood at times, but he gets on very well, and the reason is, I believe, that this tuberculous process in the lung has become isolated and has not spread. I believe eventually he will suffer, but he has disappointed my predictions for five years, to the joy of his family, whom he has supported all this time through his efforts. He belongs to a lodge, and the lodge got ready five years ago to pay his expenses. The patient before us may do the same thing. I do not like his having lost so much ground lately, but some of these processes following effusion do become isolated in one lung; it becomes more or less hardened, the lung tissue becomes replaced by cicatricial tissue which forms a sort of hard scar, the diseased area shrinks up and does not spread.

This man as you see has only a moderate degree of temperature; he has a little hectic; the temperature goes up to 101° and 100½° in the evening. His pulse averages 100. His appetite is fairly good, and I judge there is only a moderate amount of bacilli because they have not been easily found. Altogether his outlook is fairly good.

If he could get to a better climate, a climate like Arizona or Colorado—in fact, he could go to a very cold, bracing climate, so long as it was dry—he would have a very good chance of living. The tuberculosis could probably not be cured, but he could go on living a useful and comfortable life for many years.

These cases I believe more hopeful than those that become tubercular without any predisposing disease. This patient had a right to contract tuberculosis because his lung was crippled, and it may be that the only susceptibility rested in that lung, and the rest of the body may be more or less resistant to it. On the other hand, the person who contracts tuberculosis without any crippling or predisposing disease probably has a more general susceptibility to the tuberculosis, which is then more apt also to involve other parts of the body.

Case 3.—This patient presents another type of tuberculosis. As he, unfortunately, gives a very indefinite history, I will have to infer it somewhat from the condition I find. He states that within his recol-

lection his health has not been very good. I find on examination that over the front of the right chest there is pulsation and a thrill, and with the stethoscope I hear a loud murmur. The signs occupy a space the size of a hand between the nipple and the clavicle. Over the upper right lung there is marked dulness and signs of consolidation. It is evident that there is something wrong with the heart, or the large blood-vessel, and in that part of the chest which should be occupied by lung is something besides lung. Now, there are two things that this could be. One is an aneurism of the aorta, the dilatation of the blood-vessel pressing the lung aside, crippling it very much the same as Case 2 was crippled by his pleurisy, and thus leading to an infection with tuberculosis, for tuberculosis is very apt to invade any lung that is not doing its work. The other supposition might be that the lung had been destroyed by tuberculosis, and the adherent pleurisy and shrinking from disease have thrown the heart over to that side of the chest.

The man's history and his generally good condition lead me to believe that this is primarily a case of aneurism; that the man has an aneurism of the aorta, which has pushed this lung out of place, thus interfering with its movement, and has finally led to the infection of tuberculosis because the lung was crippled. I have seen an autopsy of a case of aneurism of the aorta in which a lung had been crippled by an aneurism and had been involved by tuberculosis. We make our diagnosis of tuberculosis in this man to a very large extent from the presence of the bacilli. The tubercular process is entirely secondary, and is not affecting his health very much. Like Case 2, he is not particularly susceptible to tuberculosis, and has acquired tuberculosis in a lung which has been crippled from other conditions. If you will observe the temperature you will see that it has not the tubercular curve; it is subnormal a good deal of the time, as is the case in so many of our patients, but it goes on week after week and never reaches fever point, so it is certain that this man is not suffering from sepsis. He is not suffering from mixed infection, which we find in some of the other cases, and he is not really suffering very much from his tuberculosis. It is a very interesting case and one which we will follow. You notice as he lies in bed that there is a marked pulsation of the right side of the chest (the apex of the heart is on the left about where it ought to be). So in all probability he has an aneurism.

Case 4.—You will see from what I have said that there is a great deal of interest in connection with tuberculosis. We have seen on the other side of the ward three distinct types, and now we come to another which is a more frequent kind, and one which has run a

course which is more frequently observed. This man has a pulmonary tuberculosis involving the classical regions of the chest (tuberculosis almost always attacks the upper part of the lung), and the lung has become considerably involved. Besides the tuberculosis he has the mixed infection of which I have been speaking. The lung has been involved not only by the germ of consumption, but by a germ which causes the formation of abscesses and suppuration; and the man is suffering not only from his tuberculosis simply, but from a septicemia and blood poisoning from the suppuration in the lung. This is shown by the very wide excursions of the temperature which go on day after day; it is shown by the man's loss of appetite, by his loss of flesh, by his weakness, and by his sweating. It is a severe course that tuberculosis often runs, and it is a very unfavorable condition. While not entering upon a discussion of treatment, I should remark that in cases like this everything in the way of support should be given by food and stimulants as far as he can digest them; above all things he should have those drugs which have the power of relieving cough and producing comfort and sleep.

As a rule, while most of our time will be spent in the upper wards of the hospital, from time to time we will come back and always find a great deal of interest and profit, because, as I said in the very beginning, tuberculosis is a disease that presents the symptoms and gives an opportunity for the treatment of nearly every condition of disease that we know of.

It is announced that the dates of the next meeting of the Mississippi Valley Medical Association have been changed from the 10th, 11th, and 12th of September to the 12th, 13th, and 14th of September. This change has been made necessary because the dates first selected conflicted with another large association meeting at the same place. The meeting is to be held at the Hotel Victory, Put-in-Bay Island, Lake Erie, O., and the low rate of one cent a mile for the round trip will be in effect for the meeting. Tickets will be on sale as late as September 12, good returning without extension until September 15. By depositing tickets with the joint agent at Cleveland and paying fifty cents the date can be extended until October 8. This gives members an opportunity of visiting the Pan-American Exposition at Buffalo, to which very low rates by rail and water will be in effect from Cleveland. Full information as to rates can be obtained by addressing the secretary, Dr. Henry E. Tuley, 111 West Kentucky Street, Louisville, Ky. Members of the profession are cordially invited to attend this meeting. Those desiring to read papers should notify the secretary at an early date.

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EDITED BY FREDERICK W. MANN, M.D.

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EDITORIAL ARTICLES.

THE PARASITE OF CANCER.

It is at present impossible to estimate at their true value the claims to the discovery of the etiological factor in cancer recently proclaimed by the Laboratory of the State of New York through its director, Dr. H. P. Gaylord. From time to time much discussion has ensued regarding the protozoa found in cancer, and the variability of type displayed in the different findings has created an atmosphere of incredulity as to whether investigators were on the right track. Dr. Gaylord's results are somewhat more convincing, though they do not leave the impression that the matter has been completely lifted out of the realms of incertitude. Dr. Gaylord's results are briefly as follows: The bodies he found in fresh cancers resembled fat cells, and it was only when he used the ether and osmic acid tests that he discovered they were not. Injected into the peritoneum, they caused a peritonitis, and large quantities of these bodies could be found in the peritoneal fluid. From an adenocarcinoma of the peritoneum undergoing mucoid degeneration, fluid was obtained which, injected into the peritoneal cavity of a dog, produced peritonitis, and revealed the same hyalin bodies as existed in the original material of inoculation. Similar fluid injected into a guinea-pig produced adenocarcinoma of the lungs. Several forms of the coccus are described as being found in the experimental cases, which tends to confirm the belief that the protozoic bodies undergo metamorphoses, which may account for the variation shown in the report of previous observers. The bodies described by San Felice, Russell, and Plimmer may probably have been those now demonstrated by Gaylord.

Whatever may be the outcome of the experiments of the Buffalo laboratory, the etiological significance of these bodies found in cancer will in some way be explained. The supposition that a relation exists

between these protozoa and Gorini's vaccine organism, and the organism said to have been found in syphilis, reveals pathological possibilities of which it is impossible to forecast the final issues.

EDITORIAL NOTES.

A Notable Doctor's Bill.

A young doctor in Philadelphia has given a notable example of the proper estimation of a physician's services by charging a well known Pennsylvania politician $190,000 for twenty-one months' services. This is calculated at the rate of $20 per hour for office service, and $40 per hour for outside work. The bill also includes $17,000 for several night trips to Harrisburg, and $20,000 for attendance at Virginia Hot Springs. It is to be hoped that Dr. Browning, who has rendered the bill, will be able to prove that the patient was fully aware of the rate to be charged, and that he will be successful in collecting his account. He will then be notable for having done better than Dr. Agnew, who only received $20,000 for his attendance on Garfield, or Dr. Keen, who rendered $7500 for two out-of-town trips, or Dr. Howard Kelly, who once rendered $5000 for a visit to Philadelphia.

Huxley on Physiology.

In the recently published Life and Letters of Huxley, the subject of the biography in one of his letters says: "I would urge that a thorough study of Human Physiology is in itself an education broader and more comprehensive than much that passes under that name. There is no side of the intellect which it does not call into play, no region of human knowledge into which either its roots or its branches do not extend; like the Atlantic between the Old and the New Worlds, its waves wash the shores of the two worlds of matter and of mind; its tributary streams flow from both; through its waters, as yet unfurrowed by the keel of any Columbus, lies the road, if such there be, from the one to the other; far away from that North-west Passage of mere speculation, in which so many brave souls have been hopelessly frozen up."

ITEMS AND NOTES.

THE number of cases of smallpox at Glasgow has been steadily decreasing.

THE plague seems to be slowly but surely becoming pandemic throughout the world.

DR. R. A. REEVE has been reappointed dean of the medical faculty of Toronto University.

THE depopulation of India through famine and cholera is assuming alarming proportions.

THE French Ophthalmological Society held its eighteenth annual meeting this year in Paris on May 6.

IT is reported that there has been a law passed in Korea enforcing the penalty of death for opium smoking.

DR. JOHN J. KINYOUN, federal quarantine officer at San Francisco, has been transferred to St. Paul, Minn.

A FRENCH writer claims that of every 100,000 men of the army or naval professions, 199 become helpless lunatics.

COLONEL WOODHULL, of the United States army medical department, has just been retired on account of age.

ON May 8 Sir William Hingston completed the fortieth year of his connection with the Hotel Dieu Hospital, Montreal.

THE Archbishop of Montreal strongly opposes cremation and regrets that the Quebec legislature has made it legal.

THE New York State Prison at Sing Sing has been condemned as unfit for use because of its very unsanitary condition.

IN Colorado in the future, all children attending public schools who are suffering from tuberculosis will be excluded.

THE United States Supreme Court affirmed the right of one State to quarantine against another in case of contagious diseases.

DR. WILLIAM OSLER, of Baltimore, delivered the annual lecture before the Chicago Society of Internal Medicine on May 15.

COMMENCING with the fall of 1901 the dental department of the University of Michigan will institute a four years' course of study.

CHINATOWN, San Francisco, has been thoroughly disinfected, and in future it will have to live in strict accordance with sanitary laws.

LEPROSY is reported to exist on the Island of Teneriffe, and has been officially reported at Washington by the United States consul.

THE vaccine which is being sent out by the Department of Agriculture for the treatment of blackleg among cattle is in great demand.

DR. JAMES MCCAW, of Richmond, Va., has just retired from the active practice of medicine, in which he was engaged for fifty-seven years.

LATE statistics from all points tend to sustain the claim of many American observers that cancer is increasing in frequency to an alarming extent.

THE total number of reported cases of smallpox in the United States during the year 1901 is 16,748, and for the same period in 1900, 8013.

THE second annual meeting of the American Congress of Tuberculosis was held at the Grand Central Palace in the city of New York on May 15 and 16.

PROFESSOR VON BERGMANN, of Berlin, was recently called to attend to the wound received by the Russian Minister of Public Instruction at the recent riots.

THE annual meeting of the British Medical Association this year will be held at Cheltenham from Tuesday to Friday, July 30 to August 2, inclusive.

DR. ARISTIDES AGRAMONTE has been appointed to the chair of bacteriology and experimental pathology in the medical faculty of the University of Havana, Cuba.

THE National Association for the study of epilepsy and the care and treatment of epileptics held its meeting in Washington, D. C., on the afternoons of May 14 and 15.

IN the future no passports will be issued to lepers by either Germany, Russia, or Roumania, an agreement to that effect having been entered into by the countries named.

THE annual report of the New York State Cancer Laboratory has been transmitted to the legislature. It relates to the work of Dr. H. R. Gaylord in the protozoan cause of cancer.

Dr. H. S. Scruggs, a physician residing in a suburb near Memphis, Tennessee, was found sitting upright in his buggy near his home on April 17 with a bullet hole behind his left ear.

The Soemmering prize has been awarded by the Senckenburger Natural History Society, of Frankfort, to Prof. Franz Nissl, of the University of Heidelberg, for his discoveries in the finer structure of the nerve cell.

Owing to the overcrowded condition of the Medical Department of the University of Michigan, a building is to be erected near the present one during the coming summer, which will accommodate the bacteriologic and histologic laboratories.

Dr. Victor C. Vaughan, of Ann Arbor, denies having made the statement attributed to him that he had found women superior to men as text-book students in medicine, but that in original work requiring personal judgment they fail in efficiency.

The Jacksonian Prize of the Royal College of surgeons of England has been awarded by the council of the college to Mr. McAdam Eccles, M.S. Lond., F.R.C.S. Eng., for his dissertation on "The Pathology, Diagnosis, and Treatment of the Diseases Caused by and Connected with Imperfect Descent of the Testicle."

According to an exchange, Chapot-Prevost has found another pair of united twins, which he is studying with interest. The twins are Chinese boys, fourteen years of age, and are now on exhibition in a circus in Europe. The connecting band is comparatively long and narrow, thus allowing considerable freedom of movement.

According to the *Philadelphia Medical Journal*, the petition sent to the Russian Military Cabinet by the Society for the Protection of Public Health, asking that the customary drink of vodka, given to the soldiers, be discontinued, was declined on the ground that the amount of alcohol given to each soldier is small, and that he gets that at infrequent intervals. Such a moderate consumption of liquor, the government thinks, is harmless.

Two South American States, Argentina and Uruguay, have made a treaty of sanitary alliance and protection as regards infectious diseases, especially bubonic plague. It provides for mutual inspection and quarantine arrangements sufficient to protect either country from invasion of disease from the other without any undue interference with communications or commerce. It would be well if the example thus set were imitated by other nations.

On the 10th instant Dr. George E. Ranney, of Lansing, was awarded by the war department at Washington a congressional medal of honor for distinguished gallantry in action at Reseca, Ga., May 14, 1864. This was done by direction of President McKinley, on application of Dr. William F. Greene, now of Tennessee, formerly division medical director. On another occasion Dr. Greene promoted Dr. Ranney to a brigade surgency for efficiency and bravery on the battlefield during action.

At the sixth annual meeting of the Western Ophthalmologic and Oto-Laryngologic Association, held in Cincinnati, Ohio, April 11 and 12, the following officers were elected: Dr. C. R. Holmes, Cincinnati, O., president; Dr. W. L. Dayton, Lincoln, Neb., first vice-president; Dr. J. O. Stillson, Indianapolis, Ind., second vice-president; Dr. H. W. Loeb, St. Louis, Mo., third vice-president; Dr. O. J. Stein, 100 State Street, Chicago, Ill., treasurer; Dr. William L. Ballenger, 100 State Street, Chicago, secretary. At the meeting in Cincinnati the scientific programme was of very high grade. Forty new members were elected.

Increase in drunkenness among the private soldiers of the army, says *American Medicine*, is reported to the war department from every part of the country where troops are stationed. This is regarded as the result of the abolition of the sale of beer in the post canteens, as there has been an increase in the number of saloons in the villages adjoining the military reservations dispensing cheap whiskey and other heavy liquors, and the soldiers are led into vices which are excluded from the limits of a military post. In Manila the effect has been the same where "bino" is drunk instead of beer. It is stated that nine-tenths of the men who have deserted to the enemy or have gone home sick or insane are "bino" fiends.

The National Sanitarium at Fort Stanton for the treatment of tuberculosis, though exclusively for the use of patients sent from the Marine Hospital, is expected to help materially in the international fight against this dread disease. Surgeon-General Wyman will detail one of his most experienced men to attend the Medical Congress, which will be held in London on July 22 to discuss the extermination of tuberculosis. Fort Stanton is situated in a peculiarly adapted climate 6126 feet above the sea. The purpose of the sanitarium is threefold: To save the consumptive sailor; to prevent contagion at the Marine Hospital; to prevent contagion on shipboard. The treatment followed is largely one of diet and exposure to the open air. The Medical Bureau of the Army has established a similar hospital at Fort Bayard, New Mexico.—*American Medicine.*

NEW PUBLICATIONS.

INTERNATIONAL CLINICS.

The new volume of International Clinics contains the usual number of excellent clinical papers. An extremely interesting department is that of laboratory methods, which contains much of value to those occupied in experimental work. The department of progress of medicine is also most satisfactorily conducted, and this now makes of International Clinics a very satisfactory means of keeping thoroughly *au courant* with medical advance in all departments.

International Clinics. A Quarterly of Clinical Lectures and Especially Prepared Articles on Medicine, Neurology, Surgery, Therapeutics, Obstetrics, Pediatrics, Pathology, Dermatology, Diseases of the Eye, Ear, Nose, and Throat, and Other Topics of Interest to Students and Practitioners. By Leading Members of the Medical Profession Throughout the World. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, U. S. A., *et al.* With Regular Correspondents in Montreal, London, Paris, Leipsic, and Vienna. Volume I. Eleventh Series, 1901. Philadelphia: J. B. Lippincott Co.

TREATMENT OF FRACTURES.

The second edition of this admirable work has been called for, and the exhaustion of the first edition in such a short time indicates that the work has been very favorably received. The present edition has been thoroughly revised, and many *x*-ray plates have been reproduced to assist in familiarizing the reader with the study of such plates. The work is intended to serve as a guide to the practitioner and student in the treatment of fractures of bones, and is a practical statement of generally recognized methods of dealing with those troubles. The work is very amply illustrated, and is a useful manual of the subject with which it deals.

The Treatment of Fractures. By Chas. L. Scudder, M.D., Assistant in Clinical and Operative Surgery, Harvard Medical School. Second Edition, Revised and Enlarged. Octavo, 433 Pages, with Nearly 600 Original Illustrations. Polished Buckram, $4.50 net. Philadelphia and London: W. B. Saunders & Co., 1901.

THE TECHNIQUE OF SURGICAL GYNECOLOGY.

This book is devoted exclusively to operative technique, preparation for operations, and after-care of the patient, giving no space to diagnosis or a discussion of the necessity for operation. Thus its purpose is somewhat limited, but it is nevertheless excellent in the suggestions it gives. The chapter on the Preparation of the Patient for Gynecological Operations is one which will well repay reading by all who have abdominal operations. A large number of original illustrations considerably add to the usefulness of the work.

The Technique of Surgical Gynecology. Devoted Exclusively to a Description of the Technique of Gynecological Operations. By Augustin H. Goelet, M.D., Professor of Gynecology in the New York School of Clinical Medicine, etc. New York: Published by the International Journal of Surgery Company.

THE INTERNATIONAL MEDICAL ANNUAL.

The high standard of usefulness attained by previous issues of the International Medical Annual has been fully maintained in the nineteenth edition. The dictionary of new treatment, which has been of such sterling value to practitioners, will be found to possess its old-time quality. A specially notable article is that by Professor Ruata, of Perugia, on Tuberculosis. It discusses several phases of that important topic in an original and suggestive manner.

The International Medical Annual. A Year-book of Treatment and Practitioner's Index. Contributors: Robt. Abbe, A.B., M.D., *et al.* Nineteenth Year. Price, $3.00. New York and Chicago: E. B. Treat & Co., 1901.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

A Case of Total Extirpation of the Stomach.

In the *Deutsche Medicinische Wochenschrift* of April 11, 1901, Dr. A. von Bardeleben, of Bochum, in Westphalia, publishes an account of the case of a woman, fifty-two years of age, whose stomach he removed in the Augusta Hospital in that town on August 28, 1900, and whom he showed at a meeting of the Surgical Association of the Lower Rhine and Westphalia held in Bochum on December 8 following. For a year previous to the operation she had suffered from pain in the stomach accompanied by nausea and eructation, but without vomiting. Her appetite failed entirely, she lost forty pounds in weight, and could hold herself up only with great effort. A movable tumor of the size of a fist could be felt to the left of the umbilicus. On opening the abdomen the whole anterior wall of the stomach from the cardia to the pylorus was found to be greatly thickened and densely infiltrated. The esophagus was thereupon divided below a temporary ligature placed close to the diaphragm, and the stomach, inclusive of both cardia and pylorus, was removed with detachment (Abtrennung) of the great and small omentum. The orifice of the duodenum was sutured, and the end of the esophagus was attached laterally to the small intestine some distance lower down. The operation lasted seventy-five minutes, including disinfection, twenty grammes (three-quarters of an ounce) of chloroform being used.

The subsequent course of the case was quite uneventful. On the evening of the day of the operation the patient drank a glass of claret, and all rectal alimentation was discontinued after the third day. The food taken thereafter was limited to eggs and soup, to which peptonized meat and hydrochloric acid were added. In the second week this was supplemented by potato soup, grated ham, and the like, and the patient got up on the fourteenth day, after which her appetite increased. The first motion of the bowels, which was passed on the fifth day, was quite free from biliary coloring matter, but the second and all subsequent motions were of the normal color. After leaving bed the patient's weight increased from sixty-seven to eighty-four pounds.

The orifices of the stomach after removal included obvious portions of the esophagus and the duodenum. Microscopical examination showed the tumor to be colloid cancer (Gallert-carcinoma). Dr. von

Bardeleben appends a list of surgeons who have recorded cases of total extirpation of the stomach, the names being as follows: Hemmeter, Brigham, Nolle, Faure, Schlatter, Panchel, Leersum and Rotgans, de Carvalho, and Boeckel.

Adhesive Rubber Dam for the Prevention of Possible Infection at the Site of Operation.

J. B. Murphy (*Journal of the American Medical Association*, May 4, 1901) recommends the use of a rubber dam to be placed over the site of operation. The method of application is as follows:

The field of operation is prepared in the usual way. It is then thoroughly dried, washed with ether, and the rubber is applied, the latter being put slightly on the stretch as it is brought in contact with the skin. The small quantity of ether retained by the skin increases the adhesive power of the dam. After it is applied, it is washed with alcohol or with any other sterilizing solution. The incision is now made through the dam, simultaneously with that in the skin, and to the same extent, as it stretches even more readily than the latter and there is no trouble in retracting it. The dam remains in position until the sutures are inserted and tied, after which it is lifted at one end, put a little on the stretch, and divided at the points of suture in a manner similar to that of dentists in removing the dam from teeth.

Its second practical application is in all suppurating and draining wounds. In these cases it should be left on until suppuration and discharge have ceased, so that it may protect the skin and prevent the erosion and eczema which are so frequently caused by the irritation of a purulent discharge. For this purpose it is particularly applicable in cases of artificial anus, cholecystostomy, gastrostomy, nephrotomy, suprapubic cystotomy, and a draining, suppurative, circumscribed, or general peritonitis.

Anesthesia.

At the recent meeting of the German Surgical Congress, v. Mikulicz (*British Medical Journal*, April 27, 1901) said he considered that the question to be decided at the present time was whether local applications or general narcosis rather than whether chloroform or ether inhalations should be used. No definite answer could be given to the question, for although there is a large group of surgical cases for which he would choose the one or the other, there yet remains an enormous number of operations for which the indications respecting the choice of methods are by no means clear. He dealt with the various means of local anesthesia, with the freezing with the ether spray,

with cocaine and Schleich's injections, with the circular injections of Oberst, and with the plan devised by Hacker. To these should be added the more recent injections of cocaine into the spinal meninges (Bier). In cases of a light nature — for example, the opening of abscesses and the like—there is no longer any doubt that local anesthesia is the correct method, and on the other hand Mikulicz recognizes a very large number of severe operations in which this method does not lend itself. He seeks to give some indication for cases lying between these two groups. He takes into consideration the mental and bodily peculiarities of each patient, as well as the relative dangers of the operation and of the anesthesia.

As the best help to the solution of the question, Mikulicz related the statistics of his cases during the last five years. He had used chloroform 5243 times, ether 436 times, ethyl bromide 85 times, Schleich's method 1736 times, Oberst 850 times, and Hacker 60 times. In major operations only he used Schleich's method once to every ten administrations of general narcosis in 1896, one to eight times in 1897, one to five times in 1898, one to ten times in 1899, and one to thirteen times in 1900. He considers that local anesthesia is excluded in cranial and face operations.

Surgical Hints.

Among the surgical hints in the May issue of the *International Journal of Surgery* are the following:

In cases of delirium tremens, when the action of sedative drugs is apparently insufficient to obtain rest and sleep, a blister or a mustard plaster applied to the back of the neck often has an excellent effect.

In operations on alcoholic subjects it is often necessary to watch the patient carefully, because delirium tremens may occur after any severe injury or operation, even in patients who have not touched alcohol for several weeks.

Little children should never be operated on during very hot weather if the surgeon can choose his own time. They are very apt at this time, however carefully they are fed, to develop a severe form of intractable diarrhea.

Atheroma of arteries does not contraindicate amputations so much on account of the danger of hemorrhage as because, in these cases, the flaps slough easily owing to lowered vitality. Hence it is necessary to select the operation that will give the best blood-supply.

Cancer occurring in a breast, after the other breast has been removed for this disease, ought to be operated on if there is no sign of recurrence on the operated side, because the new growth must be considered as a primary lesion rather than as a result of metastasis.

On Bandages for Nephroptosis.

George M. Edebohls (*Medical Record*, May 4, 1901) says that bandages for movable kidney may be divided into two general classes—simple bandages, and apparatus embodying the feature of a special kidney pad. Simple bandages act by supporting the entire contents of the abdomen, sustaining and more or less immobilizing the movable kidney or kidneys on top of the intestinal mass. All the relief to be gotten from bandages in cases of movable kidney is obtainable from one or two devices, either from an elastic bandage encircling and sustaining well the lower two-thirds of the abdomen, or from a long and low-reaching corset fitted and adjusted with the same end in view. The relief obtainable from bandages in any case of movable kidney will depend upon the presence and degree of any associated enteroptosis. The greater the degree of associated general enteroptosis, the better the prospects of relief from a bandage or corset. When movable kidney exists without general enteroptosis, no form of apparatus will prove satisfactory. All forms of apparatus with special kidney pads or trusses are to be absolutely rejected because they are impotent to fix and sustain a movable kidney, and because any pressure they may exercise is injurious to either the kidney or to neighboring organs, especially the vermiform appendix, or to both. In all cases in which relief of symptoms cannot be obtained from either a proper simple bandage or corset, nephropexy is indicated.

Impotence.

Dr. Winfield Ayres, of Bellevue Hospital, New York, says that when a patient presents himself complaining of impotence it will probably be found that he is suffering from chronic inflammation of the prostate. To relieve the condition his vesicles and prostate should be massaged once every third or fourth day for three months. At the same time he should be given hot irrigations by the rectum every night before retiring—the fluid used being the normal salt solution. As soon as the inflammation has subsided from the prostate and vesicles, he may be given pills containing: Phosphorus $\frac{1}{100}$, strychnine $\frac{1}{30}$, and damiana 2 grains; one t. i. d.

If the medicine is given before the prostate and vesicles have had proper treatment, the patient will probably improve for a short time, but after that he is sure to relapse and be in a worse condition than he was in before.

MEDICINE.

Bacillus Coli Communis in the Throat.

Dr. Joh. Seitz, of Zurich, has published (*Lancet*, April 13, 1901) a full description of a case of diphtheritic sore throat terminating fatally and due to infection with bacillus coli communis. The illness commenced with a rigor and a temperature of 103° F. Next day the temperature was from 103° to 104°, and there was redness of the pharynx and tonsils. On the third day a white adherent thin membrane developed on one tonsil and spread to the other one, the temperature falling to 99° and the pulse rising to 102. The subjective symptoms were those of quinsy rather than diphtheria, whereas the clinical symptoms corresponded to diphtheria. The glands were scarcely enlarged; the irritation in the throat with salivation and retching was great. The patient was very restless, and the case terminated in syncope and sudden death.

The bacteriological evidence pointed to bacillus coli communis as the cause of this fatal case of tonsillitis, no diphtheria bacilli developing in the numerous cultures that were made; unfortunately no post-mortem examination could be obtained. Dr. Seitz has never observed a similar case, though he has examined bacteriologically some 400 throat, nose, and ear cases. The assistant at the bacteriological laboratory of the University who makes all the examinations of presumed diphtheritic cases said that the occurrence of abundant bacillus coli communis was very rare in the 6000 cases which he has examined. The drains in the house of the patient, whose bedroom adjoined the water-closet, were out of repair, and nauseous smells were often observed in the bedroom—a fact which throws light on the etiology of the illness.

The Parasite of Cancer.

In the May number of the *American Journal of the Medical Sciences*, Harvey R. Gaylord discusses the parasitic nature of cancer. Gaylord claims to have inoculated cancer into animals, and to have transferred the disease from one animal to another. He says others had found organisms in cancer and explained them as protozoa. All observers of alleged parasites in cancer had noted the great variability of these forms in the tissues. As a result of his preliminary work, he thought he had discovered the reason for this, and that he owed to Busser the knowledge of the fact that all staining methods were unreliable for such a research. He therefore worked with the fresh

methods, and discovered in all the cases of cancer so far examined that by these methods the organism could always be found. These bodies resembled fat in the fresh state. It was only when he applied the ether test and the osmic acid test that he discovered they were not particles of fat. There was no reason, however, to believe that these might not be unusual forms of fat, so he injected them into the abdominal cavities of animals, most of which developed peritonitis, and large quantities of these bodies could be obtained from the peritoneal fluid. The bodies could be found in every cancer if properly sought for. The inoculation of this virulent material produced in one animal true adenocarcinoma of the breast. From this, however, the organism could not be cultivated, but it could be found in the tissues, although in slightly modified form. Cultivation of every possible kind had been tried in the State Laboratory for the investigation of cancer. Altogether 1200 cultures were made in sixty different culture media. The results had been most variable; only once did they find a yeast in pure culture. The culture medium which he has found to be most satisfactory is fucus crispus bouillon, recommended by Celli for the cultivation of amebæ. Gaylord found a resemblance between the organism of variola and that of cancer, and believes both to be protozoa. He believes that these bodies, which could be obtained from scrapings of cancer, were best observed, and, being granular in appearance, had been regarded as fat. They had a vibratory circular motion, not ameboid, and went through cycles or stages of development. They had ameboid motion, and might possibly have flagella. As to their multiplication, it was by sporulation.

On a Parasite which has been Observed in Syphilitic Patients.

At a meeting of the Paris Academy of Sciences, held on March 25, M. Stassane (*Lancet*, April 13, 1901) read an account of a new parasite which he had observed to exist in syphilitic patients. In examining the blood stained serum which was withdrawn by puncture from the enlarged glands accompanying a syphilitic chancre, he noticed some motile bodies, apparently flagellated infusoria, belonging to the monad group. They were round, ovoid, or pyriform, and had two flagella, the one straight at one pole, and another at the other pole which was much longer and tortuous. In some instances M. Stassane was able to demonstrate a nucleus. These protozoa are, as a rule, free among the cells and leucocytes of the lymphatic tissue, but sometimes they are found attached to the blood-corpuscles in the gland. They therefore penetrate into the circulation, but in the early period

of syphilis they are very few in number and are found almost exclusively in blood drawn from the border of the lymphatic region which is first contaminated. Little by little they invade the greater circulation and multiply very rapidly by budding. The individual protozoa so formed sometimes remain collected in masses, but at a more advanced stage of infection—*i. e.*, when the eruption is fully out —they separate and attach themselves to the corpuscles. At the same time they grow from either end, which gives them the appearance of trypanosomata, which also, as is well known, attach themselves to the red blood-corpuscles.

M. Stassane has not yet been able to follow the complete evolutionary cycle of this infusorium, but he is able to state that in the patients whose cases he has studied they are only found coincidently with the appearance of the rash, and that they disappear on the patient getting better, whether this amelioration be spontaneous or due to drugs. The biological conditions of this parasite explain the diminution in the number of red blood-corpuscles and in the amount of hemoglobin which is observed at every exacerbation of syphilis, as well as the extreme fragility of the red blood-corpuscles which has been noticed by Murri as existing in syphilis.

Varicella in Adults.

Alvah H. Doty, health officer of the port of New York, in the *Medical Record* of May 4, 1901, says that a wide-spread belief exists that varicella, or chicken-pox, does not affect adults, but is confined to infancy and childhood. That this is not true, and that chicken-pox may occur after puberty, is fully understood by those who are familiar with these diseases. Doty says he desires to present some practical signs in the differential diagnosis of smallpox and chicken-pox. The signs which he refers to are as follows: (1) The character of the eruption; (2) the manner in which the eruption appears; (3) the distribution or location of the eruption. In regard to the first, the writer says that in smallpox the eruption appears as circumscribed hyperemic areas, the margins of which are very sharply defined and which involve the true skin to a considerable depth. The eruption in varicella is in marked contrast to the above. The vesicles are very superficial, and only slightly involve the true skin. They contain either a transparent or pearly-hued fluid, are soft and pliable, can be easily detached, and are short-lived. As to the manner in which the eruption appears in smallpox, it presents itself in one crop—*i.e.*, it passes through the different stages practically together as papules, vesicles, and pustules. The manner in which the eruption of chicken-pox

appears is diametrically opposite to that of smallpox, inasmuch as it notoriously comes in successive crops. Moreover, the eruption of chicken-pox appears abruptly as vesicles, and is not preceded by papules as in smallpox. In the distribution or location of the eruption of smallpox, even in mild cases, the hands and feet are to some extent almost always involved; whereas in chicken-pox, even with a profuse eruption, the hands and feet are either unaffected or have but little eruption. In regard to umbilication, which in the older textbooks is spoken of as the pathognomonic sign of smallpox, the writer says it is a well marked, constant, and valuable diagnostic sign of smallpox, but what will pass for and is regarded as umbilication is frequently found in chicken-pox and some forms of syphilitic eruptions.

The Value of the Widal Reaction in Infancy and Childhood.

J. C. Morse (*Archives of Pediatrics*, May, 1901) says that in children as in adults the serum reaction has not been obtained in cases of undoubted typhoid, but that from his experience it seems safe to conclude that the Widal reaction occurs under the same conditions and with the same limitations in children as in adults. There is some evidence to show, however, that in them the reaction appears earlier, is feebler, and persists for a shorter time than in adults. The presence of the Widal reaction in infancy, especially in early infancy, is of less diagnostic value, however, than in adult life, as the reaction may be transmitted from the mother through the placenta or through the milk. It is conceivable that a positive reaction in the infant might be due to fetal typhoid infection. This explanation is not probable, however, as what evidence there is seems to show that fetal typhoid is invariably fatal. Another way in which the Widal test promises to be of great value is in the determination of the frequency, symptomatology, and pathology of infantile typhoid, concerning all of which much difference of opinion still exists. The employment of this test in large series of cases, not only of supposed typhoid, but also of other gastrointestinal disorders, cannot fail to add much to our knowledge of these vexed questions, even if it does not definitely settle them.

The Reinoculation of Persons Repeatedly Bitten by a Rabid Animal.

Prof. Andreas Hogyes (*Medical Press*, April 17, 1901) says that it often occurs that a person, previously bitten and inoculated, is subsequently again bitten by a mad dog. In such a case the question naturally arises whether we ought to inoculate him *de novo* against rabies,

as was done in the first instance, or whether revaccination is superfluous by reason of the first inoculation having afforded immunity against further infection. The author says that before giving an answer to this very important practical question, it must first be decided how long the artificially produced immunity by inoculation lasts. From a number of experiments on dogs, to find the solution of this question, the writer says that he thinks the average duration is between three and five years, say about four years. Considering now the question how these facts hold good for human beings, up to the present time we have no experimental data to rely on. In the absence of direct proofs when considering this question, the writer says we must reason by analogy, and this must be based upon dog experiments.

THERAPEUTICS.

On Certain Practical Applications of Extract of Suprarenal Medulla.

The observations that we have hitherto made, says E. A. Schafer (*British Medical Journal*, April 27, 1901), show that this extract has a far greater power in causing contraction of the muscular tissues of the uterus, whether pregnant or non-pregnant, than any other drug having the same reputed action, and this whether the extract be applied directly to the muscular tissue or be introduced into the circulation. Since the active principle is unaffected by the gastric juice, it can be given by the mouth, but in postpartum cases it would doubtless be more advantageous to inject it directly into the uterine cavity, where it would not only tend to produce immediate contraction of the uterine musculature, but also of the uterine arterioles, and thus more effectually control accompanying hemorrhage. The solution which Schafer would recommend to be used is an infusion of dry medullary substance, thirty grains to the pint of water. This should be sterilized by boiling, and injected while still fairly hot. Such a solution is a powerful styptic, and its value in this respect may be still further increased by the addition of sixty grains of calcium chloride.

Another class of cases in which the extract in question may prove of the greatest clinical value are those of sudden cardiac failure, whether as the result of shock or hemorrhage, or of an overdose of anesthetics. In these cases the sterilized decoction, which may be of the strength of five grains to a fluidounce, and must be filtered, should be injected with a hypodermic syringe very slowly into a superficial vein, or even, in extreme and apparently hopeless cases, into the heart itself through the thoracic wall. Schafer says that he has seen such

remarkable results from the application of this method to animals in which the circulation had apparently entirely ceased, and in which the heart has been completely resuscitated by the action of the drug, that he has no hesitation in recommending that it should be tried in this class of cases in the human subject.

The Good and Bad Effects Obtainable from Digitalis Used as a Therapeutic Agent.

W. H. Porter (*American Medicine*, April 27, 1901) says that the composition of digitalis is, chemically speaking, very complex, and some of its active principles antagonize others; that the different preparations differ widely in their composition and action. The cumulative action of digitalis is due to its contracting the arterioles, thus shutting off nutrition. The drug is therefore both a useful and a dangerous remedy, and one that has a very limited range of usefulness. It is only of use in lesions of the mitral valve, and even then only for a short time. It should only be used when there is low arterial tension and marked venous engorgements, and as soon as these conditions are overcome its action should be suspended. As a diuretic it is only of value when there is low arterial tension, venous engorgement, and obstruction to the exit of blood from the kidney. Acting upon the normal and in all diseased conditions in which there is obstruction to the exit of blood from the kidney, it decreases the excretory activity of the renal glands, and impairs their nutritive activity. If pushed to its fullest extent it may completely arrest the functional activity of the renal glands.

OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,

Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

Probable Methyl-alcohol Amaurosis, the Pathway of Entrance of the Poison Being the Lungs and the Cutaneous Surface.

Dr. G. E. de Schweinitz (*Philadelphia Medical Journal*, May 4, 1901) reports a case of the above. He also reviews the literature of blindness from methyl alcohol. The man, aged thirty-nine, was a varnisher by trade. Two months prior to his amaurosis he had been constantly employed in shellacing, and was accustomed to dilute the shellac to the desired thinness with methyl alcohol. He was there-

fore almost uninterruptedly during the working hours of this period exposed to the fumes of the wood-spirit, and was also accustomed at the end of his day's work to wash his hands, forearms, and face with the same liquid in order to remove the shellac stains. Dr. de Schweinitz drew particular attention to the dangers which workers in this liquid ran, and thought that they, as well as their employers, should be properly warned. He pointed out the analogy between these dangers and those which were encountered by workers in lead, nitrobenzol, and dinitrobenzol, and how in the last three trades all proper precautions were taken to prevent the well known toxic action of these drugs.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Lecturer on Dermatology, Detroit College of Medicine.

Condylomata Acuminata Linguæ (Venereal Warts of the Tongue).

In the *Journal of Cutaneous and Genito-Urinary Diseases* for May, 1901, M. L. Heidingsfeld, M.D., of Cincinnati, reports the following case. The extra-genital location of venereal warts (condylomata acuminata), common as they are elsewhere, judging from the infrequency with which it is mentioned in the general literature, is a matter of rare occurrence.

Miss M. C——, aged twenty four years, *puella publica*, presented herself at the dermatological clinic of the Laura Memorial Medical College in November, 1900. Examination revealed that she had a syphilitic infection of about two years' duration, as evidenced by the presence of placques on the mucous membrane of the lips and pillars of the fauces, by the general adenopathy, and the history of a maculo-papular eruption followed by pigmentation.

In examining the mouth for evidence of syphilis, a peculiar warty growth was noted, in the center of the tongue, near the circumvallate papillæ. The growth was rose red in color, glistening in appearance, sharply circumscribed, distinctly elevated above the level of the surrounding mucous membrane, soft in consistence, and presented all the characteristics of venereal warts, as they occur elsewhere on the body. It had the characteristic papillomatous or cauliflower appearance, and the small bright-red spots here and there corresponded to the tips of the individual papillæ, which were grouped together to form small lobes, and which, in turn, could be readily separated from each other, by means of a toothpick or a small probe, to the level of the normal

mucous membrane. A few small, isolated patches were also present near the tip of the tongue, but the remaining mucous membrane of the mouth was quite free of the growth.

The duration of the larger patch was about three or four weeks, and it began in the form of a few isolated papules, same in nature as the lesions then present at the tip of the tongue.

Examination of the genitals revealed the presence of venereal warts on both labia majora, and though slightly more exuberant, and more cauliflower-like in their appearance, they bore the same general characteristics as the lesions on the tongue.

The pronounced venereal character of these lesions led the writer to suspect either personal uncleanliness or a "coitus illegitimus" as their direct cause, but inasmuch as she strongly denied committing any unnatural act their etiology in this particular case is a matter of conjecture.

Warts, or so-called papillomata, non-venereal in character, also appear from time to time on the mucous membrane of the mouth. They differ materially, however, in their clinical appearance, much the same as the ordinary common warts of the skin, verruca vulgaris, differ from the venereal warts, situated elsewhere on the body. The fact that the patient was a *puella publica*, that venereal warts were present elsewhere, and that the clinical appearances of the lesions of the tongue were characteristic and typical, afford conclusive assurance that the diagnosis was well taken.

Urticaria the Result of the Use of Formalin.

In the *British Journal of Dermatology* for April, 1901, the following case, the notes of which were forwarded by Dr. Lewis G. Glover, of Hampstead, is reported:

A young married lady in excellent health was recommended by a friend to make use of a hair lotion containing formalin in bay rum. She applied to a neighboring druggist and obtained the two substances, which she proceeded to prepare herself in the quantities indicated to her. The first application was made on the 12th of the month. The eruption appeared on the following day, but was not severe till the evening of the 13th, when a second application of the lotion had been made. She was then seen by Dr. Glover, who found her covered with violent urticaria, covering practically the whole body. The face was swollen, so that the features were scarcely recognizable, and great wheals were observed on the trunk and extremities. A large amount of erythema was also present, and the eruption and discomfort produced were so great that sleep was impos-

sible. Remedies were made use of, but the eruption and irritation continued. On the 17th the eruption was as severe as ever. Beyond the condition of exhaustion from want of sleep and the intense discomfort, the patient seemed to be in good health, and it was especially noted that no local dermatitis on the scalp had been produced by the application of the formalin and bay rum lotion.

On considering the circumstances of the case, after having eliminated all other possible factors in the production of such a disorder, it was considered that her condition was due to formalin, and as the formalin hair lotion still remained in the room and was strong enough to give rise to the characteristic odor, it was removed and destroyed. Bran baths were used, and she immediately improved, and on the 20th of the month was quite well. It was felt that there could be little doubt that the eruption in this case was due to the action of the formalin on being absorbed. The patient's history was well known by Dr. Glover, and no previous occurrence of any urticarial condition had been observed, and nothing to which the eruption could be ascribed had been made use of in food or in any other way. The severe urticaria occurred within a few hours of the first application of the formalin and bay rum lotion, and increased in severity as the result of one or two subsequent applications.

The type of the eruption was characteristically such as one would expect as the result of absorption of a volatile chemical substance of the character of formalin. On the removal of formalin from the room, and by the use of simple sedative treatment, improvement and cure were rapidly brought about.

Mercury in the Treatment of Lichen Planus — Disease Regarded as a Syphilide.

Thurston G. Lusk, M.D., adjunct professor of diseases of the skin in the Post-Graduate Medical School, New York, says in the *Journal of Cutaneous and Genito-Urinary Diseases* (May, 1901) that in the fall of 1899 Walker's "Introduction to Dermatology" came into his hands, and he was struck with his warm indorsement of Liveing's treatment of lichen planus, by what seemed rather heroic doses of bichloride of mercury. To give $\frac{1}{12}$ grain of the salt to a patient with no symptoms nor history of syphilis appeared bold and novel. Lusk started the next case of lichen on $\frac{1}{16}$ grain bichloride with some trepidation, but after five days' treatment the improvement was so marked, as regards both lesion and general health, that he increased the dose to $\frac{1}{12}$ grain t. i. d. The result was astonishing, and there were never any signs of mercurialization. All lesions had disappeared at the end of the fourth week.

After this favorable result the writer used mercury in all succeeding cases of this disease. He usually gave $\frac{1}{12}$ grain bichloride in tincture gentian, t. i. d., but in two cases used the biniodide in doses of $\frac{1}{16}$ grain t. i. d. Tablets of bichloride were given, in most cases $\frac{1}{16}$ or $\frac{1}{20}$ for one or two months after disappearance of the lesions.

After reporting seventeen cases he concludes that mercury, in doses of $\frac{1}{12}$ grain bichloride, ½ grain protoiodide, and $\frac{1}{6}$ grain biniodide, is not merely a tonic, but a decided alterative, and few indeed can stand such doses, except they be syphilitic. He now firmly believes that lichen planus is a syphilide (the effects of either hereditary or acquired syphilis on the nerves, if you please), and the excellent results from mercury, which he now regards as a specific, afford the best and only corroboration of this stand.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

Sodium Bicarbonate in the Vomiting of Pregnancy.

Monin (*Lyon Médical*, Jan. 27, 1901) has been struck by the resemblance which the symptoms presented by certain pregnant women bear to those of hypersecretion. Gastric pain, heartburn, acidity, nausea, and vomiting, occurring especially in the morning and relieved by taking food, are all symptoms commonly observed both in hypersecretion and during pregnancy. Monin believes that in both conditions the stomach, instead of excreting only at the digestive periods, does so more or less continuously, although Kaltenbach and Jaffe state that in the pregnant cases no excess of hydrochloric acid is present in the gastric juice as in hypersecretion. Satisfactory results have been obtained in the case of pregnant women by administering daily five doses of sodium bicarbonate, each consisting of two grammes given in a capsule.

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ORIGINAL CONTRIBUTIONS.

PSYCHOTHERAPEUTICS.*

BY PHILO D. PATTERSON, B.S., M.D., CHARLOTTE, MICH.

I shall not attempt to advance new theories or to discuss novel problems on this occasion. My life has not been spent in experimenting in the laboratories of science or in formulating medical creeds. It has been my lot, as a general practitioner, to follow recognized authorities as my guide and to accept the discoveries of others as my stock in trade; and following the progress of our profession as best I could, to apply the principles of the healing art as elucidated by the masters, following the treatment and applying the remedies approved by medical science. I cannot draw from the rich storehouse of an original investigator for your entertainment or instruction. I can only offer you such thoughts and such observations as have come to me while hurrying from bedside to bedside, or on my midnight drives with my silent horse and the bright stars my only companions.

The physician and surgeon in practice treats a dual being, composed of body and mind; he deals with the material and the immaterial. The body is a complicated organism, containing bone, muscle, brain, nerve, and unnumbered cells and organs, with their myriad functions and relations. The mind, with its faculties of cognition, volition, and feeling, with the various subdivisions, relations, manifestations, and functions of each, is also a complex entity. These two, soul and body, mind and matter, are wedded together in man, and cannot be divorced until death. The body has a powerful influence over the mind—how much, and to what extent, we cannot always tell, but we know the fact. The mind also has a prompt and irresistible

*Annual address of the President, delivered at the meeting of the Michigan State Medical Society.

influence over the body, as is so often demonstrated by the blush of innocence, the flush of anger, the pallor of fear, and the paralysis of terror. The non-professional observer often assumes that the physician examines and treats the body alone, and uses only physical appliances and material remedies. In many cases this assumption is well founded. But there are many cases, and, I will add, a very large class of cases, where the mind, mental functions, and the nerves are so affected that the doctor must recognize the mind as the principal factor in determining the cause and in curing the disease. While anatomy and physiology and materia medica have been acknowledged, and are now acknowledged, as the foundation of the theory and practice of medicine, the progress in the department of Neurology during the last quarter-century has prepared the way, and has made a thorough knowledge of psychology, mental forces, and mental phenomena not only essential but absolutely imperative for the general practitioner of the future. Eminent authorities entertain the theory that not only organic but functional diseases are caused by some impairment of bone, nerve, or tissue in the body. No doubt this is a true theory in a very large class of cases, and it is possible that this physical impairment or lesion may be so slight as to escape the observation of the most acute observer, aided by the most powerful microscope.

But is this hypothesis true in all cases? Are there not diseases that have a purely mental cause, independently of the body? If a disease has a purely mental cause, is not a mental remedy the logical treatment? If life, spirit, soul, or that sleepless force, whatever we may call it, which keeps the heart beating and the involuntary functions of the body in operation, is a mental force, why cannot many of the ills of the body be cured by utilizing that force as a curative agent? We are instructed by the best of authority to recognize the mind as an important factor in the cause and cure of many diseases. The surgeon recognizes this factor unconsciously, perhaps, when he excludes the agonized family and the wailing friends from the presence of the wounded patient. Their depressing influence and mental wounds inflicted upon the bleeding patient are often more difficult to treat than are the physical wounds themselves. The physician also recognizes this influence in adjusting the environments of the sick-room, in selecting cheerful attendants, in securing tranquillity of mind, in arousing hope and courage in the patient, and in inspiring confidence in his own remedies and skill. How often do we as physicians, in the crisis of a disease, as if by inspiration, take the sinking patient into our mental grasp, and lift him over the danger point, like a ship carried over a rocky reef upon the crest of a swelling billow, and, by some

mental force we cannot define, by some occult levitation we cannot explain, anchor the rescued life in the safe harbor of recovery! Indeed, sometimes when the patient is in the grasp of grim death itself, do we hold the spirit back within the confines of life for hours, by this same wonderful force. If the medical profession only understood the law of this psychological power, and could invoke its aid at will, what limit would there be to its usefulness? Do the rank and file of our profession have a clear understanding, or any adequate conception, of the magic influence of the mind upon the body in causing and in curing disease?

So far as medicine is reduced to an exact science, the profession should be conservative. While it is doubtless our duty to "hold fast that which is good," we are nevertheless compelled by the sleepless law of Evolution to cling to the good only until we can find something better; and to relinquish the comparative better as soon as we can obtain the superlative best. The medical profession should never be so conservative as "to refuse to look at the new moon out of respect for the old."

While some physicians have noted the mental cures recorded in past and current history only to discredit them with a superficial sneer, many of the independent and aggressive thinkers in the profession have given the subject much careful consideration. The inherent difficulties, however, of metaphysical investigation by isolated observers have retarded fruitful research in the western world; and the rapid development of the physical sciences, by attracting the attention of investigators, has directed the trend of medical thought into other channels, and upon other subjects. Many phenomena which nineteen hundred years ago were ascribed to miracle, are now explained by science as the result of natural law. Can the law governing the occult powers of successful healers outside our profession, both in ancient and modern times, be discovered and utilized by the medical profession?

Bigotry, the bastard offspring of ignorance and prejudice, has always waged a warfare against the advancement of science. It has always obstructed human progress, and is now a standing menace to all future growth in theology, sociology, and liberal thought. It turns a deaf ear to evidence; it stifles reason; and it condemns without a hearing. "None are so blind as those who will not see." "Intolerance is generally based upon an incapacity to comprehend the arguments of our opponents." Our profession, especially the leaders of medical thought, in dealing with the issues of health and life, should be so controlled by the "spirit of truth" that they would hear evidence with judicial candor, consider fact and phenomena with minds open to conviction, and accept truth whenever and wherever found.

"There are more things in heaven and earth, Horatio,
Than are dreamt of in your philosophy."

The fact that lobelia and bloodroot have been used by witches, in steeping their enchanting potions, is no adequate reason why the doctor should not use these herbs in practice, if their medicinal qualities stand the test of experience and medical science. The fact that mind-healers, Christian scientists, spiritists, mesmerists, and others outside of the medical profession have utilized spiritual or mental forces as the means of curing disease is no just reason why the practicing physician should not utilize the same forces for the same purpose if tested by experience and found efficacious. In medicine, as in other affairs of life, there is nothing quite so successful as success.

Is the evidence showing or tending to show that mental forces are useful in curing disease sufficient to demand a scientific investigation by the medical profession? It is recorded that the prophets of old performed many wonderful cures by mental or spiritual agencies. The "Great Physician" and his disciples achieved wonderful curative results without the use of drugs. His apostles and many of his immediate followers received and exercised this same healing gift. The early church fathers, and very many good people of to-day, ascribe these cures to miracle—to a special interposition of the Infinite, in recognition of some relic of the saints, or in answer to the prayers of the faithful. Let us see what light profane and current history throws upon this question. Andrew D. White, the learned ex-president of Cornell University, in an instructive paper upon "Miracle and Medicine," published in the *Popular Science Monthly*, June, 1891, while discussing the "belief in the efficacy of the royal touch in sundry diseases," says: "This mode of cure began, so far as history throws light upon it, with Edward the Confessor, in the eleventh century, and came down from reign to reign, passing from Catholic saint to Protestant debauchee upon the English throne, with ever increasing miraculous efficacy. Testimony to the reality of these cures is overwhelming. As a matter of fact, there are no miracles of healing in the history of the human race more thoroughly attested than those wrought by the touch of Henry VIII., Elizabeth, the Stuarts, and especially by that chosen vessel, Charles II. Though Elizabeth could not bring herself fully to believe in the reality of these cures, Dr. Tooker, the queen's chaplain, and later dean of Litchfield, testifies fully of his own knowledge to the cures wrought by her, though he confesses that she was somewhat skeptical. William Clowes, the queen's surgeon, also testifies fully to them. Fuller, in his church history, gives an account of a Roman Catholic who was

cured by the queen's touch, and converted to Protestantism. Similar testimony exists as to cures wrought by James I. Charles I. also enjoyed the same power, in spite of the public declaration against its reality by Parliament. . . . But the most incontrovertible evidence of this miraculous gift is found in the case of Charles II., the most thoroughly cynical debauchee who ever sat upon the English throne before the advent of George IV. . . . To James II. the same power continued; and if it be said, in the words of Lord Bacon, that Imagination is next of kin to miracle—a working faith,' something else seems to be required to account for the testimony of Dr. Hylin to cures wrought by the royal touch upon babes in their mothers' arms. . . . The change in the royal succession does not seem to have interfered with the miracle; for though William III. evidently regarded the whole thing as a superstition, and on one occasion is said to have touched a patient, saying to him, 'God give you better health and more sense,' Whiston assures us that this person was healed notwithstanding William's incredulity. As to Queen Anne, Dr. Daniel Turner, in his Art of Surgery, relates that several cases of scrofula which had been unsuccessfully treated by himself and Dr. Charles Bernard, sergeant-surgeon to her majesty, yielded afterward to the efficacy of the queen's touch. . . . Testimony to the reality of these cures is indeed overwhelming, and a multitude of most sober scholars, divines, and doctors of medicine declared the evidence absolutely convincing.

"In France, too, the royal touch continued with similar testimony to its efficacy. On a certain Easter Sunday, that pious king, Louis XIV., touched about sixteen hundred persons at Versailles. This curative power was then acknowledged far and wide by Catholic and Protestant alike, upon the continent, in Great Britain, and in America; and it descended not only in spite of the transition of the English kings from Catholicism to Protestantism, but in spite of the transition from the legitimate sovereignty of the Stuarts to the illegitimate succession of the house of Orange." Many authorities were cited by the author in support of his paper.

That most wonderful cures have been effected at the Grotto of Lourdes in France, and at the shrine of Sainte Anne De Beaupré in Canada, is attested by current history; and the marvelous achievements of the magicians of the Orient are conclusively established by many witnesses. Hudson, in his "Law of Psychic Phenomena," cites many cases; and at page 144 sums up his conclusions as follows: "That there resides in mankind a psychic power over the functions and sensations of the body, and that that power can be invoked at will under certain conditions, and applied to the alleviation of human

suffering, no longer admits of a rational doubt. The history of all mankind presents an unbroken line of testimony in support of the truth of this proposition. In the infancy of the world, the power of secretly influencing men for good or evil, including the healing of the sick, was possessed by the priests and saints of all nations Healing of the sick was supposed to be a power derived directly from God; and it was exerted by means of prayers and ceremonies, laying on of hands, and incantations, amulets and talismans, relics and images, and the knowledge of it was transmitted with the sacred mysteries. . . . Coming down to more recent times, we find that cures seemingly miraculous are as common to-day as at any period of the world's history. In fact, one unbroken line of such phenomena is presented to the student of psychotherapeutics which extends from the earliest period of recorded history to the present time. At no time in the world's history has there been such a wide-spread interest in the subject as now; and the hopeful feature is that the subject is no longer relegated to the domain of superstition, but is being studied by all classes of people, from the ablest scientist down to the humblest peasant. The result is that theories almost innumerable have been advanced to account for what all admit to be a fact, namely, that there exists a power to alleviate human suffering which lies not within the domain of material science, but which can be invoked at the will of man, and controlled by human intelligence.

I have not referred to these miraculous cases to explain them, or to attempt to solve their mystery. I cannot do it; they are beyond my ken. I shall not even venture a theory tending to interpret them. I mention them for another purpose entirely.

That marvelous cures have been wrought in all countries and in all ages by some mental force has been established by such a mass of evidence as to be believed by the Christian church as historic truth, to be accepted by modern scholarship as established fact, and to be recognized by progressive science as reliable phenomena for consideration. This occult force has not usually been invoked by the medical profession, but by others, and sometimes by quacks and impostors. Outside of mental and nervous diseases, the average practitioner gives little or no attention to mental therapeutics. Indeed, the great majority of our profession has very little opportunity, and very poor means, of investigating this promising department of medical science. A candid and scientific handbook upon this subject from a medical standpoint is needed for the use of students and practitioners.

As the fugitives from Egyptian bondage were journeying in the wilderness, they sent chosen spies into the land of Canaan to ascertain the strength of the enemy and the fruits of the land; and after forty

days they returned, laden with the grapes, the figs, and the pomegranates of the promised land for the inspection of the hosts of Israel. In like manner, as medical science is groping its way through the wilderness of mental phenomena, I would send candid medical scholars and psychological experts to the Grotto of Lourdes, to the shrine of Sainte Anne De Beaupré, to the magicians of India, to the hospitals of mesmerism, to the retreats of mind-healers, to the temples of Christian science, and to the centers of mental and spiritual healing everywhere, to ascertain the facts, to discover the forces used, and to learn the methods followed in effecting the marvelous results in those occult realms, and bring back their gleanings for classification and consideration by the hosts of scientific medicine. I would have our profession, with judicial impartiality, investigate all mental phenomena which can possibly throw any light upon the cause or cure of disease. In doing this, we shall only apply to practice that eclectic doctrine which is the foundation of our school of medicine.

History shows that the saints have not had a monopoly in healing the sick, but that sinners as well have wrought many marvelous cures; that many of the miracles of Judea have been closely counterfeited, at least, by the levitations, suspended animations, and resuscitations wrought by the fakirs of the East; and that many of the wonders of the past are being reproduced by the mind-readers and hypnotists of the present. There are reasons to indicate that these miraculous cures were wrought, and that these marvelous feats were performed, by exercising the same subtle power of the soul, and by invoking the same mysterious force of the mind.

The influence of imagination and the power of the will in the cause and cure of disease are acknowledged by the profession. The stimulant of hope and the tonic of courage are universally prescribed. The skilful physician requires cheerful, hopeful, and tranquil optimists for nurses, and will not willingly accept any other. A gloomy, despondent, and complaining pessimist about a sick-room during sickness or convalescence is as dangerous to the patient as a relapse, and often is quite as fatal. Hypnotism, animal magnetism, mental suggestion, and autosuggestion are now recognized factors in medical science. Telepathy is now an accepted fact at least for investigation. The power of the mind over the body is manifested in ways too numerous to be mentioned. The medical profession recognizes the mind as an incidental factor in many diseases, but should it not be recognized as a prime cause in many more? Great progress has been made in the department of Neurology during the last quarter of the nineteenth century; but at the beginning of the twentieth century we have only entered the vestibule of mental therapeutics, while the

great temple lies before us unexplored. I would not have the medical student and the practicing physician study the physical man and material remedies less, but would have them study psychology, mental phenomena, and mental forces more. Meanwhile, with Cromwell, I would say to them, "Trust in God, but keep your powder dry."

We are sometimes unconsciously controlled by our prejudices and sympathies. We often reject evidence against and refuse to consider doctrines not laid down in our creeds. But the great leaders of progressive science have always possessed minds open to conviction. The persecuted heretics of one generation are often the canonized reformers of the next.

I am conscious that it is much easier to designate a desirable achievement than to accomplish it. But in conclusion, I will venture to suggest some questions along the lines above indicated for your consideration which I believe, in your progressive hands, can benefit the profession and the world:

First, does not the progress of the profession demand that a judicious course in Psychology, as applied to the prevention, causation, and cure of disease, be added to the curriculum of our medical colleges, and that all medical students be carefully instructed in this department of applied science? As a means to this end, is not the present an opportune time for this society to recommend to the Regents of the State University that such a course be established in the medical department of that institution?

Secondly, would it not be conducive to the advancement of medical science, and would it not give this society a desirable place in the progressive march, if we should amend our constitution and provide for a committee or a section of the society to observe, consider, and classify mental phenomena relating to the prevention, cause, and cure of disease, and to cooperate with other organizations endeavoring to discover the laws governing mental forces, and labor to reduce mental therapeutics to a practical science?

Thirdly, are not the seeds of disease—more dangerous than any plague—being sown broadcast in every hamlet and home by the subtle but mighty force of mental suggestion imparted in the graphic and startling descriptions of the symptoms and agonies of disease contained in advertisements of patent medicines and quack remedies in the public press, and do not sanitary science and the public welfare demand that such advertisements be prohibited by an act of the legislature? No doubt the fake medicine dealers would lose many profitable sales, the newspapers would lose many fat "ads.," and the doctors would lose many paying calls by such legislation, but would not humanity be the gainer?

As we review the advancement made by our profession in its various departments during the century just ended, and consider the medical capital we have accumulated as the basis of future evolution, we can form no adequate conception of the progress to be made in medical science and art during the century just commenced. We are safe, however, in making the prediction that at the end of this century many of the medical problems of to-day will then have been solved; that much medical erudition which is now based upon theory will then have been reduced to an exact science; and that the doctors of the next century will have better facilities, more light, and greater skill in alleviating human suffering than have we. We are only required, however, to perform well our part in our day and generation, according to the light we have, and leave it to the historian to note the progress and at the end of the century make up the record and transfer it to the medical profession of the next century as a contribution in part from us.

THE USE OF ADRENALIN SOLUTIONS.*

BY ALBERT E. BULSON, JR., B.S., M.D.,
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What I have to say upon the subject assigned me on the programme will be in the nature of a preliminary report upon the use of a comparatively new preparation, known as Adrenalin, which is said to contain the active principle of the suprarenal gland.

You are all familiar with the difficulty encountered in preventing the rapid deterioration of the aqueous extract of suprarenal gland, and no doubt have, like myself, deprived yourselves of the beneficial effects of suprarenal gland solutions because of the inconvenience and time required to prepare fresh solutions each time the substance is used.

That suprarenal gland solutions are a worthy addition to the resources of the physician is now an established fact, but the difficulty in making solutions reliable in strength and permanent in form has tended to restrict their use. The solutions as generally prepared deteriorate very rapidly, in most instances showing evidences of putrefactive change within an hour. To overcome this objection various measures have been advocated. Dr. Bates, of New York, recommends the addition of boracic acid; Dr. Ingalls, of this city, recommends the use of boracic acid, cinnamon water, and camphor

* Presented at the regular meeting of the Chicago Ophthalmological Society, April 9, 1901.

water; Dr. Oppenheimer, of New York, in a recent number of the *New York Medical Journal*, recommends a one-per-cent aqueous solution of resorcin, and claims that suprarenal gland solutions prepared with resorcin as a preservative will remain permanent for many weeks.

While all of these solutions have some merit, in that they do not deteriorate rapidly, a serious objection is that solutions prepared from the powdered suprarenals lack uniformity in strength and must be filtered and otherwise prepared at the expense of considerable inconvenience and time.

As might be expected, efforts have been put forth to isolate the active principle of the suprarenal gland, and quite recently Dr. Takamine, of the scientific laboratory of Parke, Davis & Company, announced in a paper before the New York State Medical Society that he had succeeded in isolating the active principle of the suprarenal gland in a perfectly stable and pure crystalline form. He named his product "adrenalin," to distinguish it from "epinephrin" and "suprarenin" discovered by other scientists and afterwards proven not pure products but contaminated with much inactive material.

Some weeks ago I received, through the courtesy of the manufacturers, for experimental use, some of the pure adrenalin, which occurs in white crystalline form, and some aqueous solutions of adrenalin chloride especially prepared for local use. The solutions were in strengths of 1:10,000, 1:5000, and 1:1000, with .5 per cent chloretone added as a preservative. These solutions were recommended to me, as to many others to whom they were sent, as being sterile, unirritating, of uniform strength, and fairly permanent. They were first tried in the nose, and it was at once discovered that a very decided blanching of the mucous membrane occurred after the use of even the weakest solution. It was soon noted, however, that for general purposes the strongest solution (1:1000) was none too active, particularly if the solution was used with a view to performing bloodless operations of a minor character. This was also found true in using the solution in the eye. A 1:1000 solution blanches the eye in a very few seconds, and this effect lasts from thirty minutes to two hours. This effect is also secured in an eye affected with superficial inflammation, such as catarrhal conjunctivitis, and to a less extent in the deeper inflammations of the eye, such as iridocyclitis.

Under the influence of a 1:1000 solution, and cocaine anesthesia, I have performed tenotomies, advancements, and other operations upon the eye and its appendages, with but little if any loss of blood. In operations upon the conjunctival surfaces of the lids and the eye muscles I find that there is practically no hemorrhage if the strongest

adrenalin solution has been previously used, and in this respect the results compare equally with the results obtained from a freshly prepared solution of the dried gland.

In intranasal operations the solutions work beautifully. In the removal of polypi the surrounding intumescent tissues are completely reduced, thus giving room for work and a clear view of the growth, as well as limiting, if not entirely preventing, hemorrhage. Nasal spurs, unless very large, are removed without hemorrhage of any consequence.

I have lately been using the solutions in the treatment of middle-ear inflammations, but with rather indifferent success, except in one instance. A lady presented herself a few days ago, complaining of sudden impairment of hearing, attended with an unusual amount of tinnitus and some pain. Examination disclosed but little redness of the tympanum, but a decided congestion of the postnasal mucous membrane. Adrenalin solution, 1:1000, was thoroughly applied to the postnasal tissues two or three times within fifteen or twenty minutes, and the tympanic membrane twice painted with the same solution. Within a half-hour the patient reported an increase in the hearing power, a result that was verified by tests, and a cessation of the tinnitus and pain. I am unable to say how long the effect lasted, as the patient did not return, but it is presumed that the relief was fairly permanent, or she would have presented herself for further treatment.

I am now using the solution in a case of pannus and acute exacerbation of a trachomatous inflammation, with apparently beneficial results. The blanching of the tissues seems to favor the action of the regular treatment prescribed in these cases.

I have not used adrenalin internally or hypodermically.

The adrenalin chloride solutions have a tendency to deteriorate if exposed to either light or air for any length of time. Some of the solutions that I have had eight or nine weeks under cover and tightly corked do not appear to have changed. In the solutions more or less exposed by opening the bottle I notice the development of a fungous growth. Boiling these solutions makes them sterile, and, so far as determined, as efficient as when first received. The average ophthalmologist will use several bottles of adrenalin solutions before any of them have time to deteriorate to any appreciable extent, and consequently if the solutions remain fresh and active for a few weeks only but little objection can be offered.

I understand that some slight modification in the preparation of the adrenalin solutions has been recently made, and that as now placed upon the market they are freer from the possibility of deterioration, and the efficiency of the solutions more lasting.

As far as my investigations go I find the adrenalin solutions asep-

tic, non-irritating, non poisonous, and fairly permanent for a prolonged length of time, which latter is a great point in their favor. I believe, however, that solutions in less strength than 1:1000 will not prove satisfactory, and I do not doubt but that there will be a demand for solutions much stronger. The fact that these solutions are uniform in strength, do not have to be freshly prepared each time, do not have to be filtered or sterilized, and are permanent for even a few weeks, is sufficient to warrant me in advocating their use in preference to the ordinary suprarenal gland solutions that we have heretofore been accustomed to using.

Dr. Bulson, in closing the discussion, said that the change of color of the solutions was due to exposure to light and air. He has had one or two bottles of the solution in his desk for some weeks, tightly corked and away from the light, and they have not changed in color. He has noticed that there seems to be some difference in the effects produced by fresh solutions, recently received from the laboratory, as compared with the effects produced by solutions received eight or nine weeks ago. He attributes this to the fact that the solutions which he had been using were being exposed to light and air through frequent opening of the bottle. Solutions kept in the dark and well corked remain perfectly fresh and efficacious for several weeks at least. He thought it advisable to have a stock bottle from which a small portion may be taken each day for regular use. There can be no objection to boiling the solutions if there is any doubt as to their being aseptic.

Like Dr. Gradle and Dr. Starkey, he discarded the use of the 1:10,000 solutions, as they are too mild. The 1:5000 solution blanches the conjunctival surfaces and the mucous membrane of the nose very nicely, but the 1:1000 solution does the work much more satisfactorily.

In reply to Dr. Gradle's point that the solutions do not affect the deeper congestions, nor entirely prevent hemorrhage in intranasal surgery, he would say that such has not been his experience. He said that about a week ago he enucleated a perforated eye in which there was marked iridocyclitis. The application of a 1:1000 adrenalin solution blanched the eye perfectly and simplified the operation considerably through prevention of hemorrhage. His operations upon septal spurs had been as bloodless with adrenalin solutions as with the ordinary suprarenal gland solutions, but if a more active vasoconstricting effect is desired it can be obtained by an increase in the strength of the solution.

As to suprarenal solutions containing chloroform as a preservative, he thought he would have some hesitancy in using them on the

conjunctival surfaces, unless some method was employed to destroy the chloroform immediately before use. When used on a pledget of cotton, as a swab, the chloroform might be destroyed by holding the swab in the gas flame for a few seconds prior to use, as suggested by Dr. Gradle.

As adrenalin is non-irritating, non-toxic, and a very powerful heart stimulant, there seems to be no good reason why it cannot be used in a 1:500 solution, or even stronger. Further experience may indicate the use of a 1:500 solution as the standard for operative work.

THE REQUIREMENTS OF MODERN SURGERY.*

BY J. H. CARSTENS, M.D., DETROIT, MICH.

If you ask what is modern surgery, I would answer that it is the gospel of cleanliness—*that covers the ground.*

Here the problem comes and the difficulties, and here our failures are manifested, on account of the utter impossibility of absolutely preventing infection in every case.

THE PATIENT.

1. The great point in connection with this is the individual to be operated upon.

We have minimized the chances of infection of the individual himself; so that as far as the patient himself is concerned, we are able to get him or her reasonably clean.

THE HOSPITAL.

2. If the patient is clean you cannot operate on him that way. The patient must be covered, kept warm in fact.

We insist on absolute sterilization of everything that the patient has on, of everything that is in the operating-room; this includes tables, chairs, all the basins and towels, and everything that may be used.

Considering all these points about the requirements of modern surgery, anybody can readily see the utter impossibility of carrying out modern aseptic surgery in a private house.

Every surgeon understands that what I want to call attention to simply is that the highest and most perfect type of surgery (that is, in the direction of the preliminary preparation of the patient, if that

* Abstract of a paper read at the meeting of the State Medical Society, May 15, 1901.

is necessary), the technique, the rapidity of the operation, the lessened danger from shock, and the most careful judicious after-treatment of surgical cases, can be better carried out in a well equipped hospital than they can in a private house.

THE SURGEON.

3. The third great requirement of modern surgery is the surgeon himself. The question of individuality always comes to the front, and the power of adaptation to environments of an individual is far greater than the power of environments to shape the course of a person. A patient in perfect health with the greatest power of resistance, the most beautiful hospital, or the most perfectly arranged operating-rooms, the well trained nurses, the alert assistants, cannot compensate for a *poor operator*.

When anesthesia was used and the patient was free from pain, slower and more careful operating was allowable, and in the course of time this tendency to slowness and deliberateness has crept into the ranks of surgery more and more. Every slow and slovenly physician who never did any mechanical work in his life, whose hands are like an elephant's foot, whose joints are as stiff as a thirty-year-old cow's, considers himself a surgeon, competent to practice surgery.

If any one should hint to these people that they are not competent to practice surgery on account of lack of training, they feel very indignant and say, "Why, you had to learn. You killed a lot of patients learning this."

Because we were obliged to do this in order to open the path for the future, in order to save life, and lessen suffering for coming generations. That does not say that every Tom, Dick, and Harry has to learn this over again, has got to make those same mistakes we have made. We made the mistakes, and we have tried constantly to teach the rising generation of surgeons how to avoid the mistakes. I do not know of a surgeon in this country who has not constantly tried to show the young man—or the old one, for that matter—who was trying to learn modern surgery, how to do it.

But this takes time, and no one can become a modern surgeon by going to a postgraduate school and seeing a surgeon operate at a distance of fifty or a hundred feet. In order to become a modern surgeon he must work directly with some modern surgeon; he must assist him, he must be with him day after day, month after month — yes, year after year — certainly not less than a year. Then he will probably appreciate the difficulties of diagnosis, the difficulty of selecting the right kind of operation, the difficulty of picking out the propitious time and moment for each individual patient. Then he will pick up

some of the fine points in the technique, the minutiæ or reason why doing one little thing, or not doing it, bring success or failure in an operation; providing also the aspiring surgeon has had the necessary preliminary training.

The man who has never done any mechanical work, or who was not raised on the farm, or who was not allowed to make a little sleigh or a baseball bat when he was a boy, or who never worked around in the garden, or played ball or the piano, or who never made pills in a drug store—the man who has never developed a mechanical hand from his earliest childhood—will never be a good surgeon. The man who simply studied all his lifetime, and whose father was kind enough to buy him everything from a wagon to a book, who was never taught to draw and to cultivate an artistic eye or develop the sense of symmetry and proportion, that man will never be a surgeon; it is not in the nature of things.

Finally, you will ask me, "Who could or should be a surgeon?" and in answer I will say that he must be a well educated physician, must have been a general practitioner and a good therapeutist. He must take up surgery early and gradually develop a surgical hand; he must be an assistant of a first-class surgeon for at least a year, where he will see hundreds of operations of various kinds. Such a man may be a good surgeon. He ought to be in some large town, say a county seat, and as his surgical practice grows, he ought to give up absolutely general practice and devote himself to surgery exclusively, and then his colleagues in the county would support him.

Hence the requirements of modern surgery are:

First, a patient brought to the highest state of resistance to microbic infection and made as clean as possible.

Secondly, an operating-room, preferably in a hospital, where everything has been made thoroughly sterile. This includes anesthetist, assistants, and nurses.

Thirdly, a surgeon who has a mechanical hand and has received a thorough and long training.

ACCORDING to the *Journal of the American Medical Association*, a committee of the friends and students of Professor Bottini are planning to celebrate the twenty-fifth anniversary of his appointment to the chair of surgery at Pavia. A Festschrift or souvenir volume of original articles on surgery will be presented to him, with a gold medal and a framed parchment list of all subscribers. I. Tansini is secretary of the committee, and the subscription asked for is twenty lire, or about $4.

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

All communications regarding papers, reports, etc., should be addressed to the Editor of THE MEDICAL AGE, P. O. Box 484, Detroit, Mich.

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EDITORIAL ARTICLES.

THE FLY SEASON.

On the approach of the flies the thoughts of the tired doctor lightly turn to those speckled dwellers in gravelly streams that so readily feed upon flies, but are not yet sufficiently trained in the sense of observation to know good from evil or discern the false from the true. With the artificial fly the busy doctor should have an intimate and friendly feeling, not only from the wholesome recreation it affords him, but from the close relations that modern science is showing flies of all kinds to bear to the really practical problems of disease.

Among winged creatures nothing under an angel has in these later days become so important as a mosquito. The microscopic protozoon that lives in the red blood cell, and manifests itself in malarial disease, must often find its way directly into the body through the mosquito. An extra-corporeal life seems to be a necessity for the organism. After a number of asexual forms of the parasite have multiplied, the male and female forms finally occur, but these cannot reproduce until they have entered the body of an Anophele. Thus the busy mosquito, besides being himself objectionable, becomes the host of one of man's worst enemies.

The wisdom of being able to distinguish between the different species of mosquitoes goes without saying. The small dapple winged Anophele must be known from the malicious but comparatively harmless Culex. While the fisherman is resting beneath the trees he can take up this study with advantage.

There is doubtless a good deal to be found out about black flies. Why these minute insects manufacture such an intensely irritating poison is something which is perhaps only known to themselves. They do not seem to serve any benign purpose in the world so far as man is concerned. They serve but to preserve the best fishing streams from invasion by the Philistines.

The manufacturer of fly-paper is nowadays a man of beneficent intentions and far reaching importance. He has a wide field for the adaptation of his art. The common house fly is not so intolerable as the mosquito, but it is undoubtedly a carrier of typhoid, and is responsible for the loss of many lives in military camps. Tuberculous matter has been fed to flies, and the bacilli have twenty-four hours later been discovered in fly-specks. As far as is known the common fly does more harm than good in the world, and while tangle-foot traps may not seem a chivalrous method of attacking so humble an enemy, the fly-paper man must serve us for the present until better means shall prevail.

These and other winged insects have probably a large list of crimes to answer for. Malignant pustule, bubonic plague, erysipelas, leprosy, and many other diseases are in all probabilty to some extent propagated through them. The industrious flea, which has hitherto been apostrophized as the Nemesis of uncleanliness, is really much more positively malignant in his characteristics. The fleas that infest the skins of rats suffering from bubonic plague may be as malign in their intentions as any of the enemies of man.

How many fine commercial opportunities are being lost, especially in the tropics, through insect pests. The tsetse fly that introduces a parasite into the blood makes the rearing of live stock practically impossible in a fertile part of Africa. The Texas cattle tick is another of these suctorial insects that inoculate so successfully the blood of their victims. The number of these malicious insects is indeed legion, but a study of the life history of one of them might shake the confidence of the most orthodox Brahman in his belief in the sacredness of all forms of life, which not even a firm reliance in the doctrine of metempsychosis would be entirely able to repair.

The enemies of man are no longer the ape and the tiger. The insect and the microbe are far more potent. Flies are not really essential to the trout or they might be allowed to live, so let the good work of the fly-paper man go on, and let insecticide be exalted to the rank of a cardinal virtue, the pursuit of which may profitably occupy the attention of the noblest minds.

EDITORIAL NOTES.

The Harmlessness of Nicotine and Fusel Oil.

Another ancient belief has been dethroned from its pedestal. Nicotine is not the harmful substance of tobacco, nor is fusel oil the deleterious matter in whiskey. Virginia tobacco only contains one

per cent of nicotine, and this is destroyed in combustion; nor is there much fusel oil in whiskey. It is now asserted that pyridine and its relatives are responsible for the violent headache, trembling, and dizziness following excessive smoking; and furfurol, a partly oxidized alcohol, is the source of the whiskey-drinker's troubles. It is, of course, satisfactory to know things by their right names, and their proper recognition may lead to their exclusion, but nevertheless whiskey and tobacco will be as bad as they were before.

The Michigan State Medical Society.

The meeting of the Michigan State Medical Society at Battle Creek May 8 and 9 was marked by more than ordinary success. The attendance was numerous, and the interest displayed in the scientific work of the society was unequivocal. The local profession were not to be outdone in hospitality, and the city with its health foods and sanitariums showed itself to be a very interesting resort for a professional gathering. The society elected as its president Dr. Leartus Connor, of Detroit, who has been a very faithful and enthusiastic worker in the society for many years. Under his guidance the society may be expected to achieve a position of increased usefulness and efficiency.

Suprarenal in Postpartum Hemorrhages.

The extraordinary uses of suprarenal gland have been commented upon in all directions. Its use in postpartum hemorrhage has recently been alluded to by Schafer, of Edinburgh. An infusion of the dry substance, thirty grains to the pint of water, is to be injected into the uterine cavity, and its value may be increased by adding 60 grains of calcium chloride. It tends to promote immediate contraction of the uterine musculature, besides acting as the most powerful styptic known. This, and the action of this remedy when hypodermically injected in reviving in heart failure, will make suprarenal an indispensable adjunct to the operating and obstetrical outfits.

ITEMS AND NOTES.

SMALLPOX in Glasgow continues to decline.

THE smallpox quarantine in Toronto has been raised.

THE presence of smallpox in New York City still continues.

DR. NICHOLAS SENN has been reappointed surgeon-general of the Illinois State troops.

GOVERNOR LA FOLLETTE, of Wisconsin, recently vetoed the Collins compulsory vaccination bill.

THE Medical Department of the Brooklyn Navy Yard has been established in new quarters.

THE Jefferson Medical College held its seventy-sixth annual commencement exercises May 15.

MR. FREDERICK TREVES has had conferred on him the honor of knighthood by the King of England.

THE King of England, who, as Prince of Wales, was elected to an honorary membership in the British Medical Association, has declined to continue as a member.

DR CARLO SAVINI, of New York, has been made by the King of Italy a Knight of the Order of the Crown of Italy.

THE New York State Hospital for Care of Crippled and Deformed Children was formally opened at Tarrytown on May 17.

THE first summer session of the medical department of the University of Michigan will begin June 4 and continue to August 9.

THE group of buildings for the Harvard medical and dental schools is to be erected in Boston at a cost of over $2,000,000.

THE legislature of New York, just adjourned, passed a special appropriation bill, giving the Craig Colony for Epileptics $137,000.

THE National Confederation of State Medical Examining and Licensing Boards held a meeting at St. Paul, Minn., June 3, 1901.

SIX THOUSAND DOLLARS was raised by a concert at the Auditorium of Chicago a short time ago for the Alexian Brothers' Hospital of that city.

THE Northwestern University Medical School, Chicago, has decided to add one year to its course for the benefit of fourth-year students and practitioners.

PROFESSOR KOHLSTOCK, a German scientist, who was engaged in sanitary researches in Tien-Tsin, died in that city on April 15, as a result of infection contracted while prosecuting his investigations.

A BILL has recently been passed by the Michigan legislature appropriating $50,000 for the establishment of a psychopathic ward at Ann Arbor in connection with the medical department of the State University.

THE Constantinople correspondent of the *Daily Express* (London) says: "It is rumored that the Sultan shot dead a physician who, while attending him for ear complaint and massaging him, unwittingly caused his majesty intense pain."

THE Cornell University Medical College has acquired the library of the late Dr. Felix V. B. Hirschfeld, professor of pathology and pathological anatomy at the University of Leipsic. Ten thousand dollars has been paid for the books.

AN emergency hospital has been established at Buffalo for the use of the public at the Pan-American Exposition. It comprises two male and one female wards, accommodating in all twenty-six beds, and is supplied with all modern medical and surgical appliances.

DR. JOSEPH LEIDY has received from the French government the decoration of Chevalier of the Legion of Honor and the decoration of "Officier Instruction Publique." These honors were bestowed by the French government for services rendered during the Paris Exposition.

THE University of Bellevue Hospital Medical College has a new *x*-ray laboratory which is probably the most complete and practical installation of its kind in this country. It was given to the college as a memorial of the late Edward V. Gibbs, and the donors have provided not only for installing and operating it, but also for keeping it supplied with all the new and improved apparatus that may appear with the development of the science.

ACCORDING to the *Western Medical Review*, the Supreme Court of Indiana has recently decided that a licensed physician is not legally obliged to attend a patient when called, although he has been the family physician of the patient in times past. Dr. Weddingfield refused to attend a patient, although he had been called three times. The patient died, and it was charged that her death was caused by the doctor's refusal to respond to the call. He was sued for $10,000 damages.

THE Association of Anatomists held its third congress at Lyons recently, under the presidency of Professor Renaut. More than fifty French and foreign anatomists attended, among them being Professors Golgi of Pavia, Van Beneden of Liege, Laskowski and Eternod of Geneva, and Fusari of Turin. The three days of the meeting scarcely sufficed for the work that had to be got through. The next meeting will be held at Montpellier on the first three days of the week before Easter, 1902.

American Medicine is authority for the following: A surgeon-general of the German army is reported to have treated tobacco leaves with tannin and a decoction of *Origanum Vulgare* before they were made into cigars, and by this means so transformed the contained nicotine as to render it harmless to the human system. Experiments were made upon persons having aversion to tobacco in any form, and these smoked three cigars in succession without experiencing any inconvenience, without alteration in pulse, breathing, or temperature.

As already announced, a proposition was made at the recent meeting of the Pan-American Medical Association held in Havana to organize a committee of the various American countries to investigate the possibility of instituting a uniform system of quarantine regulations and systematic cooperation for removing the sources and suppressing the causes of yellow fever. It has now been arranged that a convention for the discussion of this matter is to meet in Havana next February. The invitation to the United States to participate in this convention is now under consideration by Dr. Wyman, of the Marine Hospital Service.

THE *New York Medical Journal* is authority for the following: A judge of the Superior Court of Georgia recently denied the application for a charter for "The Atlanta Institute of Christian Science" on the ground that Christian scientists cannot practice their treatment of diseases in Georgia without having been regularly graduated in medicine or having passed an examination before the medical examining board like other physicians. Judge Lumpkin holds that, according to the decision of a case in the Supreme Court of Nebraska, Christian science is the practice of medicine.

THE tabulated report of the vital statistics of Havana for March is, according to *American Medicine*, accompanied by a letter from Major W. C. Gorgas, chief sanitary officer there, calling attention to the fact that the death-rate (26.28) is lower than that of any March since 1889. There were only four cases and one death from yellow fever. He attributed this to the systematic and extensive destruction of mosquitoes, and also to the quickened ability of physicians to recog-

nize the milder types of the fever; consequently cases formerly overlooked are now promptly recognized and reported. The smallpox situation is equally satisfactory.

One of the first ladies who have taken advantage of the recent relaxation of the rule excluding women from the study of medicine in Germany is Fraulein Mathilde Wagner, of Frankfort, who has just passed the final examination in medicine at Freiburg, in Baden. She received her certificate of "maturity" in Berlin some years ago, studied medicine at Zurich, passed her first examination there, and was about to take her final one last autumn, when it became possible for her to obtain a license in her native land. She is now at liberty to practice medicine in Germany. Six ladies graduated at German universities last winter, and others are about to follow their example.

Prior to the formation of medical colleges in North America, says the *Medical Record*, it was customary for young men desirous of learning "physic" to go abroad and study in the schools of Edinburgh, London, or the Continent, if they had the means, and if they had not the "wherewithal" they would apprentice themselves for a term of years to some practitioner of repute in the colonies, and at the expiration of the term of their indenture to him begin practice on their own account. As there were practically no laws as to who could and who could not practice medicine, many poorly educated physicians and charlatans arose to feed upon the laity. It has been estimated that at the outset of the war for independence there were upward of thirty-five hundred practitioners of medicine, of whom not more than four hundred had received medical degrees.

The report of the director of the Imperial Institute for Infectious Diseases in Japan, on the epidemic of plague in Kobe and Osaka from November, 1899, to January, 1900, is very interesting as demonstrating the amount of work that has been done to determine the relationship between house rats and the spread of the infection. The municipal authorities of Kobe and Osaka paid five sen (about 2½ cents) for rats whether dead or alive, and many other cities not infected followed the same example. A peculiar superstition prevails in Osaka that the house rat is the guardian angel of the empire. During the period of the epidemic 20,000 rats were paid for in Kobe, and 15,000 in Osaka. In Kobe 291 dead rats were found, of which 61 contained bacillus pestis. In Osaka 200 dead rats were found, of which 23 were infected with bacillus pestis. There is no doubt that many were found and disposed of. Fear of the disinfection that followed the finding of a dead rat induced the people to hide them from the authorities. Bacilli very simi-

lar to bacillus pestis were often found in the dead rats, and these could readily be mistaken for the true cause of plague, so that cultural and experimental methods in addition to the microscope were used in order to make a diagnosis. The relation of the individual cases to the rats is not fully evident; however, it is proved that the rats take the disease first and afterwards man. This can easily be accounted for in the greater opportunity afforded the rats for contact with infected material.—*American Medicine.*

Joseph B. Greene, M.D., in his report to the Surgeon-General of the United States Marine Hospital Service, has this to say on the method of preparing virus in the Berlin Pasteur Institute: "The virus is prepared by inoculating rabbits subdurally with virus. At the end of the eighth day of the disease the rabbit is killed and the spinal cord secured under the strictest aseptic precautions. A small piece is always placed in bouillon to test its sterility in case the animal should be infected with tubercle bacilli or other dangerous organisms. Then the spinal marrow is suspended by strings in closed jars containing potassium hydroxide for the purpose of drying. The longer it is allowed to remain in the desiccating jar at a temperature (20° to 23° C.) the less virulent becomes the marrow. Pasteur considered that after fourteen days' drying the marrow became avirulent. Treatment as a rule begins with the attenuated virus, and increasing its virulence till the termination of the treatment, which continues for nineteen to twenty-one days, depending on the severity of the case. The head cases are always considered the most serious, and bites occurring under protected clothing are the least serious. A piece of the spinal cord five centimeters in length is emulsified in a mortar, and from this two centimeters is administered hypodermically. As a rule one dose is given daily, though when it is urgent to get the patient immunized as soon as possible, it is administered twice daily."

An institution for the exclusive treatment of patients suffering from the various forms of cancer (either curable or incurable) is being built, says *The Lancet*, at Moscow, at the expense, which is said to be an enormous one, of the municipality of that city. It is understood, however, that the main object which prompted the decision of the municipal authorities of Moscow of erecting a special hospital for cancer is to provide the necessary means for studying the nature of the disease from every possible point of view, and thus to encourage and to enable more thorough pathological and clinical research to be carried out in connection with that malady. It is hoped that by carefully conducted scientific investigations the light of knowledge will be thrown upon a scourge which has of late years, and particularly in the

northern regions of the Russian Empire, assumed a most formidable extent and character. The new institute, it is stated, will be under the entire management of a committee consisting of several members of the medical faculty, with Dr. Lewschin, professor of surgery in the University of Moscow, as its director; moreover, it is announced that special facilities will be offered to such students, desirous of joining the scientific circle of investigators there, who have already proved themselves good workers in that department of pathological research. In addition a special journal will be published by a committee selected for that purpose; it will bear the name of the said institute, and will be entirely devoted to its scientific and social interests.

"Rudolf Virchow Fund."—To the American Medical Profession: On October 13, 1901, Rudolf Virchow will be eighty years old. When he completed his seventieth year a fund was started in his honor to enable the great master to facilitate scientific research by establishing scholarships, and by encouraging special medical and biological studies. Contributions to that "Rudolf Virchow Fund" were furnished by those in all countries interested in progressive medicine, as a homage to the man whose name is always certain to arouse admiration and enthusiasm. In Berlin a large committee, containing among others the names of A. Bastian, v. Coler, A. Entenburg, B. Fraenkel, O. Israel, Fr. Koenig, C. Posner, and W. Waldeyer, has been formed to call for contributions, which are to be added to the original "Rudolf Virchow Fund" so as to increase its efficiency. The committee expresses the opinion that in no better way, and in none more agreeable to the great leader of modern medicine, can his eightieth birthday be celebrated, and ask for the sympathy and cooperation of all those engaged in the study and practice of scientific medicine all over the globe. The undersigned have formed a subcommittee for the purpose of making the American profession acquainted with the intentions of the Berlin committee, and urge their colleagues to participate in honoring the very man who has done more, these fifty years, than any other to make medicine a science, and international. Subscriptions should be sent to their secretary, who will receipt therefor.—Charles A. L. Reed, president of the American Medical Association; Henry P. Bowditch, president of the Congress of American Physicians and Surgeons; William K. Welch, Johns Hopkins University; Robert F. Weir, president of the New York Academy of Medicine; A. Jacobi, 110 West 34th Street, New York, secretary.

NEW PUBLICATIONS.

CHRONIC URETHRITIS OF GONOCOCCIC ORIGIN.

One of the best works of recent times on chronic diseases of the urethra is the one written by J. De Keersmaecker and J. Veerhoogen, and translated and edited by Ludwig Weiss.

The authors have shown that gonorrhea, especially chronic gonorrhea, is not the simple affection which it was for so long a time supposed to be, but a very serious one, and one which requires much skill and patience to effect a cure.

The chapters on treatment will be found to be complete and up to date, especially those on urethral endoscopy.

The volume is one which will be found to be of great value to the general practitioner in his efforts to treat that most troublesome of diseases—chronic urethritis.

Chronic Urethritis of Gonococcic Origin. By J. De Keersmaecker, Chief of Service, Diseases of the Urinary Organs at the Centralklinik of Antwerp, and J. Veerhoogen, Agrégé at the University of Brussels; Chief of Service, Diseases of the Urinary Organs at the Polyclinique Libre. Translated and Edited, with Notes, by Ludwig Weiss, Attending Physician to the Genito-Urinary and Skin Service, German Poliklinik; Dermatologist to the Hebrew Orphan Asylum, New York, etc. New York: William Wood & Company.

PRINCIPLES OF SURGERY.

The third edition of Professor Senn's classical work has been thoroughly revised and two new chapters added—one on "Degeneration" and the other on "Blastomycetic Dermatitis." The work appears as almost indispensable to those desiring to acquaint themselves with the principles, bacteriological or otherwise, underlying all surgical problems. The book is copiously illustrated, and is in all respects a valuable and necessary addition to the physician's library.

Principles of Surgery. By N. Senn, M.D., Ph.D., LL.D., Professor of Surgery in Rush Medical College in Affiliation with the University of Chicago; Professorial Lecturer on Military Surgery in the University of Chicago; Attending Surgeon to the Presbyterian Hospital; Surgeon-in-Chief to St. Joseph's Hospital; Surgeon-General of Illinois; Late Lieutenant-Colonel of United States Volunteers and Chief of the Operating Staff with the Army in the Field During the Spanish-American War. Third Edition, Thoroughly Revised. With 230 Wood Engravings, Half-tones, and Colored Illustrations. Royal Octavo. Pages, xiv–700. Extra Cloth, $4.50, net; Sheep or Half Russia, $5.50, net, delivered. Philadelphia: F. A. Davis Company.

ORAL SEPSIS.

This is an essay written for the purpose of showing the profound relationship existing between oral sepsis and various conditions of the stomach. Pyogenic injection through the mouth the author believes to be the essential factor in producing the condition known as pernicious anemia, and many forms of gastritis he regards as forms of general sepsis. The essay is a thoughtful and scientific presentation of views which must be regarded as in some respects original, though in harmony with much that is actually known as to the real cause of disease.

Oral Sepsis as a Cause of Septic Gastritis, Toxic Neuritis, and other Septic Conditions. With Illustrative Cases. By William Hunter, M.D., F.R.C.P., etc. London, Paris, New York, and Melbourne: Cassell & Company, Limited, 1901.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Eucaine in Spinal Analgesia.

Dr. Jedicka, of Prague (*Sbornik Klin.*, vol. ii, No. 3), has tried cocainization of the spinal cord in seven cases, and has had unpleasant experiences with the drug. He therefore replaced it with eucaine (alpha-eucaine hydrochlorate). This he employed in ninety-three cases of laparotomies of various kinds, operations on the lower extremities, perineum, and scrotum, and in various gynecological operations, with very excellent results.

The injection was always carried out with technical precision, and there occurred after four minutes an analgesia beginning at the feet and proceeding up the body in segments. In seven to ten minutes it had reached the navel or even the breast. The extension of the analgesia does not depend upon the dose, but upon the diffusion of the eucaine in the cerebrospinal fluid. This can be favored by placing the patient in an appropriate position, employing a proper amount of the solution, and diminishing the pressure of fluid within the canal. It is, therefore, well to allow a little of the fluid to escape before making the injection; at least as much as the amount to be introduced should be allowed to run out.

The phenomena that occur after the injection may be divided into three phases. The first is the stage of analgesia, which usually begins four minutes after the injection, and is heralded by formication and numbness of the lower extremities. In some cases paralytic symptoms appear also, such as a feeling of weight and heaviness in the legs; but very rarely is there complete paralysis. The heart action may be slowed or increased, but is otherwise, save in the aged, normal. In fact, this method of anesthetization had better be avoided in old persons. Other symptoms noted were nausea and vomiting (only when the stomach was empty), paresis of the sphincter ani, dermographism, and erection of the penis.

During the second stage the patient feels quite well and is in normal condition.

The third stage begins three to six hours after the injection, and is characterized by headache and increase of temperature. After three hours these symptoms cease; in exceptional cases they last until the next day. The author believes that they appear in consequence of

reaction of the membranous envelopes of the cord. If the headache is very severe the patient can be relieved by lumbar puncture and the removal of a little cerebrospinal fluid. The relief is absolute, and the headache can be prevented by letting a little of the fluid of the cord escape before making the injection. This procedure has some influence upon the rise in temperature also.

Experiments with the injection of indifferent fluids in dogs have proved that spinal analgesia cannot be effected with them, especially as no destructive action upon the cord must be caused.

The author recommends spinal analgesia, as effected at Maydl's clinic, in the very heartiest manner. It is an excellent method, and it entails no serious danger. It is of inestimable value in patients suffering from heart and lung disease, to whom ordinary narcosis would be extremely dangerous.—*Die Therapie der Gegenwart*, Berlin, April, 1901.

The Disinfection of Wounds with Pure Carbolic Acid.

Professor von Bruns, in a recent address before the German Surgical Congress (*Philadelphia Medical Journal*, May 18, 1901), recommended the use of pure carbolic acid for the disinfection of wounds. He says that after incision, and subsequent curetting or excision of the wound, the surrounding skin should be protected against excess of carbolic acid by wetting it with absolute alcohol; the wound is then thoroughly swabbed with a gauze sponge previously immersed in pure carbolic acid. The amount of carbolic acid employed depends upon the size of the wound, but not more than two to six grains was ever used even in the largest wounds. He says that not only is this cauterization with carbolic acid not particularly painful, but the subsequent pain after fresh incisions is also remarkably slight. Von Bruns says that pure carbolic acid destroys with certainty the bacteria on the surface, and also those in the most superficial layers of the wound. He says he does not hesitate to recommend the application of pure carbolic acid in small quantities and for one minute, followed by immediate irrigation with absolute alcohol, as a remedy that forms a valuable adjunct to our mechanical procedures in infected wounds.

The Pathology and Bacteriology of Uretero intestinal Anastomosis.

Ureteral implantation into the rectum is always followed by ascending infection, according to F. R. Zeit (*New York Medical Journal*, May 18, 1901). The resulting pyelonephritis is caused by the bacillus coli communis. The primary mortality is very large (eighty-four per

cent) no matter which operation is done. Of 120 dogs operated upon by Zeit, ninety per cent died of peritonitis due to leakage of urine or general sepsis and pyelonephritis during the first ten days. Dogs living a longer time died of pyelonephritis, pyelonephrosis, and pyemia. Dogs which had fully recovered from the operation and the resulting pyelonephritis, and were to all appearances in perfect health and vigor again, all had granular contracted kidneys, due to induration and cicatrization of diseased areas. The rectum acts as a fair substitute for the bladder in such cases. Dogs which had fully recovered after unilateral implantation were living by the other kidney. The kidney of the side operated on was atrophic and granular, the result of an early pyelonephritis. The functionally active kidney was of two to eight times the size of the atrophic one. A review of the literature, says the writer, on uretero-intestinal anastomosis in man shows that no better results can be expected in man than in animal experiments. The ureters are frequently dilated, but show very little or no disease, no matter how extensive a pyelitis or pyelonephritis is present. The bladder is always infected by way of the urethra, whether it is emptied at the time of the operation or not. A purulent cystitis was found in every case, caused by staphylococcus albus and bacillus coli communis. Artificial immunity to infection by the so-called colon group of bacteria is the only hope of making uretero intestinal anastomosis a feasible operation.

MEDICINE.

Mental Fatigue in Schoolchildren.

Dr. J. Bellei, of Bologna, Italy (*Lancet*, May 11, 1901), says that one of the most important problems connected with the general question of the education of the young is the determination of the relations existing between the daily instruction given in the schools and the fatigue that is thereby caused, so that a way may be found of imparting knowledge without danger to the physical and mental health of the children. Bellei, who spent considerable time in studying up this subject, says that the first hour of lessons is a useful mental exercise, because the children are able during that time to overcome the state of inattention in which they were at the time of coming to school. The morning lessons do not produce great mental fatigue. The midday rest is of great use to the children, because it does not destroy the good effects of the mental exercise in the morning, and enables them to do work of better quality than that which they produce after a long rest, as one observes at the beginning of the morning lessons; and though immediately after the midday rest the children are in the

best condition of mind, an hour or so of application in the afternoon is sufficient to produce such a mental fatigue as to lead at the end of the afternoon lesson to the worst work of the day. Therefore, if the morning application does not fatigue, it consumes the mental energy of the children in such a manner that they cannot undertake light work in the afternoon without falling into great mental fatigue.

The Food Value of Alcohol.

Dr. John Madden (*American Medicine*, May 4, 1901) says that the fats and carbohydrates are not poisonous in any quantity; alcohol, on the other hand, is a violent protoplasm poison.

The fats and carbohydrates are capable of being changed into a reserve supply of fat, which is deposited chiefly beneath the skin and constitutes a store of latent energy upon which the organism calls whenever stress of circumstances makes increased expenditure of energy necessary. Alcohol cannot be thus converted and stored.

The carbohydrates and fats protect the nitrogenous tissues from undue waste. Alcohol hastens their waste.

The oxidation of the carbohydrates and fats proceeds in such a manner that all the oxygen necessary for their conversion is supplied by the normal process of respiration. Alcohol, on the other hand, makes a demand for oxygen so great that it cannot be supplied by the normal process of respiration. Oxygen to supply this demand is, therefore, abstracted from the tissues, causing a derangement in their functions and metabolism.

All tissue activity is immediately accelerated by the ingestion of a real food. The ingestion of alcohol is followed by a partial or incomplete inhibition of both glandular and muscular activity as well as a marked diminution in the quality of the mental processes.

Of course, we are speaking now of the effects of food contrasted with the effects of alcohol in normal persons not accustomed to alcohol nor any similar drug in any quantity.

Orchitis and Epididymitis in Typhoid Fever.

F. P. Kinnicutt (*Medical Record*, May 25, 1901) says that epididymitis or orchitis, occurring in the course or during the convalescence of typhoid fever, is a rare lesion, and is of typhoidal origin. Only very exceptionally is it due to secondary microbic infection, and it develops at a late period in the disease or during convalescence. The lesion, although as a rule unilateral, may be bilateral, and involves either the epididymis or testicle or both, and not infrequently the cord. Effusion in the tunica vaginalis is rare, and termination is

most always by resolution. Suppuration occurs in twenty-five per cent of all cases, and localized necrosis and extrusion of the testicular tissue is not uncommon. Exceptionally there is destruction of the entire testicular structures. Atrophy of the testicle occurs, but is a rare sequence, and this lesion gives rise to little constitutional disturbance. Death as a direct result of the lesion has not been noted.

Tubercular Toxicosis from Butter.

Edwin Klebs (*Münch. Med. Woch.*, April 16, 1901) recites some personal experiences upon the subject of toxicosis from butter. He spent last summer in a Swiss village, and noticed that an eczema of his hands from which he had suffered ten years ago had recurred with great intensity, though no external agents of irritation could be accounted for. He realized that he had been eating large quantities of butter, and as we know market butter may contain tubercle bacilli or the toxins of the bacilli, he thought it possible the eczema was caused by the toxins absorbed through the butter, and cured them with his "tuberculocidin," which neutralizes these toxins. Experiments on guinea-pigs showed that the butter contained a virulent toxin which killed the animals, exhibiting lesions and high temperatures characteristic of tubercular toxins. He believes that besides being an infectious disease, tuberculosis is at the same time a toxicosis.

Further Communications Regarding the Biologic Test for Human Blood.

The Medical Age of March 25, 1901, contained an abstract about Uhlenhuth's new biologic test for human blood. As this test may prove to be of great value in legal medicine Uhlenhuth has made further experiments with this test (*Deut. Med. Woch.*, April 25, 1901), and reports that the test is accurate and sensitive with blood that has been allowed to become putrid for three months, also with blood mixed with soapy water and menstrual urine. Blood in snow kept at 10° C. for fourteen days was easily demonstrated. The serum does not lose its specific coagulating substance after heating for an hour at 60° C., nor if carbolic acid be added to preserve it. Blood can be easily obtained from a person by the use of a Heurteloup cupping glass, and as only ten to twenty cubic centimeters of blood is needed it can after being defibrinated be injected at once into the rabbit.

Arsenic Poisoning.

Conrad Stich (*Münch. Med. Woch.*, No. 11, 1901), reports some interesting cases—one in which arsenic was obtained from the stomach

contents of a woman who had been poisoned by placing a large quantity of arsenic in the vagina. This seemed a form of excretion with the gastric juice. In another case a girl of twenty-one showed the presence of arsenic in the stomach contents and feces, besides in the organs of her three months' fetus. A third case, a man who had taken large quantities of arsenic for a skin disease, showed the presence of perceptible quantities in the urine. Snails were poisoned with arsenic, and it was found that there was a general dilatation of the lymph vessels, increase in quantity of pigment, fatty degeneration of the protoplasm of the parenchymatous cells without any symptoms of inflammation. Plants were also poisoned, and it was found upon analysis that they absorbed very little of the poison.

Subcutaneous Injections of Quinine.

Dr. Bluemchen, surgeon with the troops in South Africa, speaks of the difficulties and poor results in administering quinine by mouth to many patients (*Deut. Med. Woch*, April 25, 1901), and after trying many different solutions for subcutaneous injection, he recommends the following: Dissolve 0.5 gramme of quinine hydrochlorate in one cubic centimeter of hot water and inject aseptically under movable skin (between the shoulder blades); then place a moist compress over the point of injection for twenty-four hours. The injection is not painful, infiltration very seldom occurs, and the skin remains unchanged with no necrosis. Professor Koch has shown this solution to be aseptic by boiling tetanus bacilli for five minutes therein and thus destroying the spores. The injections are easily, aseptically, and painlessly made, and the results are far better than with the administration of quinine by mouth.

PATHOLOGY AND BACTERIOLOGY.

UNDER THE DIRECTION OF THADDEUS WALKER, M.D.,
Microscopist to Harper Hospital, Detroit.

The Influence of Quinine and Methylene Blue upon Malaria Parasites.

Iwanoff (*Deut. Med. Woch*, No. 18, 1901), after reviewing considerable literature upon the effects of quinine and methylene blue upon the various forms of the malaria parasite, concludes that methylene blue affects chiefly the protoplasm, and quinine the chromatin. In the young forms the proportion of chromatin to the protoplasm is entirely different than in the adult forms. The young forms have little protoplasm, are not affected by methylene blue, but are very

sensitive to quinine; the adult parasites are almost all protoplasm and very sensitive to methylene blue. The half-moon forms consisting almost wholly of protoplasm are completely resistant to quinine, but are entirely destroyed by methylene blue.

Bacilli Pathogenic for Rats.

Kister and Koettgen, of Hamburg (*Deut. Med. Woch.*, May 2, 1901), have been working with the bacilli that Professor Danysz, of Paris, reported a year ago as pathogenic for rats. Epidemics among field mice have been observed, and lately upon ships arriving in Bristol and Hamburg from Smyrna. So it is of great interest to know if they are the bacilli of the plague. The authors confirmed the pathogenic power of the bacilli for rats and mice; but got only negative results with birds, cats, dogs, and guinea-pigs. All the rats died in five to seven days when fed with cultures of these bacilli, white mice still earlier. However, these bacilli were easily differentiated from those of the plague, and the authors believe there is no danger to be feared from them.

Researches into the Active Substances in Typhoid Cultures.

A. Paladino-Blandini (*La Riforma Medica*, April, 1901) has, from his investigations of this subject, drawn the following conclusions: (1) Two substances, chemically and biologically different from each other, can be isolated from cultures of the typhoid bacillus—a nuclein and a nucleo-albumin. (2) The property of agglutinating the blood of inoculated animals, possessed by typhoid cultures, is dependent upon the presence of a special nucleo-albumin. (3) This nucleo-albumin used alone is capable of conferring an agglutinating property on blood. (4) Nucleo-albumin acts only by means of the leucocytes.

THERAPEUTICS.

The Effects of Trional.

Trional is a drug which has come very much into vogue during the last few years. On its first introduction it was regarded by physicians as an absolutely safe hypodermic. There have, however, been cases in which some curious ill effects have been noticed. Stewart Hart quotes several such instances, and describes a case (*American Journal of the Medical Sciences*, April, 1901) under his own care in which there was neuritis and hematoporphyrinuria. The patient was a lady, aged fifty, in wealthy circumstances, who had suffered from insomnia and

dyspepsia for many years. She had taken a dose of fifteen grains of trional every other day, though occasionally intermitting for three or four days. After about two months she suddenly developed severe abdominal pain of a colicky character, with extreme nausea and vomiting. There was no pyrexia, abdominal tenderness, nor distention. These symptoms lasted for several days, rendering rectal alimentation necessary. The administration of trional was stopped, and morphine was administered hypodermically. The urine, which had hitherto been normal, became dark red, and contained a trace of albumin. One day only twelve ounces of black urine had passed; no blood was present. This specimen gave the typical spectrum of hematoporphyrin. The pulse became intermittent, and an apex murmur was heard. A few days later there was tingling in both arms and the knee-jerks were absent. There was pain in the left elbow and the legs were weak. Tactile and thermic sensations were diminished, but not absent. Paresis appeared in the extensor muscles of the left arm and in the leg. Reaction of degeneration was obtained. From these symptoms the patient slowly and gradually improved, and the heart condition also cleared up.

The writer considers that trional was the initial cause of this curious combination of gastric and neuritic symptoms. As is well known, sulphonal is very apt to produce hematoporphyrinuria, and the similarity in chemical constitution of trional and sulphonal warrants such a supposition. The exact cause and mode of production of the hematoporphyrinuria by this group of compounds is not yet known. It has been suggested that some irritation is produced in the kidneys, though others think that the presence of hematoporphyrinuria is due to changes in the central nervous system. As regards the neuritis it has also come to be recognized that the increased exhibition of coal-tar products within the last few years has apparently been followed by a relative increase in the number of cases showing neuritic symptoms.

Remedies for the Relief of Pain.

S. Cohen (*Merck's Archives*, May, 1901) says that among palliatives, pain-relieving agents are the most important—morphine, cannabis, hyoscine, and the like, and the coal-tar products. He says the coal-tar products are much used to relieve pain, both on physicians' prescriptions and by the laity on their own account. They are, says the writer, dangerous depressants, even when guarded by ammonium or caffeine compounds, strychnine or camphor, and should be used

with great caution. External applications to relieve pain are preferable to internal treatment whenever they may be employed with reasonable prospect of success. Heat and cold are among the most powerful agents for such external use. In neuralgic headache and intercostal neuralgia the writer uses a combination of 15 minims each of oil of gaultheria and guaiacol combined with 10 grains of menthol, made into an ointment, and a small quantity well rubbed in over the seat of pain night and morning. For the relief of the pain of laryngeal tuberculosis, which is most excruciating, especially when there is ulceration of the epiglottis, the writer says he has had better results from the use of orthoform locally than from any other application he has ever used. Solution of adrenal substance, properly filtered, is a useful agent to relieve pain due to distention of accessible blood channels, as in the conjunctivitis of pink-eye, the nasal and sinus inflammations, engorgements of hay-fever and of grippe, the headache of chronic ear disease, some forms of painful swelling of the urethra, etc.

The Use of the Suprarenal Capsule in Diseases of the Heart.

From a large number of cases of heart disease in which the suprarenal capsule was used, S. Floersheim (*New York Medical Journal*, May 18, 1901) has drawn the following conclusions:

1. A weak and irregular acting heart became stronger and more regular.

2. A dilated heart was contracted.

3. A diffused apex beat became localized.

4. A diffused, loud, and rough mitral regurgitant murmur became localized, smoother, and lessened in intensity, while in some cases the murmur disappeared.

5. A murmur which, owing to the extreme weakness of the heart, could scarcely be heard, became more distinct, thus aiding in the diagnosis.

6. The normal cardiac sounds, when indistinct, became clearer and more easily distinguished.

7. In some cases a rapid pulse became less rapid; in other cases a slow pulse became faster.

8. Patients who were very weak, with organic heart disease, were improved.

9. No effect was observed in organic heart disease when the pulse was strong and regular.

Treatment of Leprosy.

The secretary of the Paris Medical Academy (*Medical Press*, May 1, 1901) recently read a paper on the treatment of leprosy by ichthyol administered internally. The first patient submitted to the treatment was a woman aged twenty-four, who had suffered for three or four years previously from tuberculous leprosy. Although the doses were very small at first (six grains daily), the results were very satisfactory. In a few months the tubercles shriveled up. Several other cases of cutaneous leprosy were equally improved under the treatment. However, if ichthyol was an excellent remedy in the tuberculous form of leprosy, it entirely failed in the nervous form. The doses of ichthyol varied from twenty grains to two drachms a day, but the increase should be progressive. As to direct application of the drug, no advantage should be expected from it.

Tannoform Powder in Night Sweats of Phthisis.

Strassburger (*Therapeutische Monatshefte*, No. 3, 1901) recommends tannoform, a combination of tannin and formaldehyde, mixed with talcum (1:2), and applied with a powder-puff to the affected parts of the body. The method is simple, and there are no ill effects upon the breathing as when the body is painted with formaldehyde, there being no danger from inhaling or swallowing the powder. Sometimes the night sweats will disappear after one application of powder, and again the powder must be dusted on every evening, though after using three or four times the sweats generally disappear for some time. In one case the effect only lasted one hour, so that atropine had to be given. Otherwise Strassburger did not have a complete failure to reduce the sweats.

Faradization in Fibrinous Pneumonia.

Hornung (*Münch. Med. Woch.*, No. 16, 1901) states that alcohol in any form is dangerous in pneumonia, as it affects the vasomotor centers exactly as ether and chloral. The pneumococcus toxin also paralyzes the vasomotor centers, and so we should keep these centers intact and not add alcohol to aggravate a condition that has already been brought about. He praises the use of faradization of the thorax with a roller massage electrode. The constant interruption of the current exerts a kind of massage upon the muscle fibers, which he calls cell massage. This stimulates the circulation materially and thus relieves the heart. It is very pleasing to the patient, and has never failed even in the most marked cases of disturbed compensation.

Clinical Experience with Adrenalin.

Emil Mayer (*Philadelphia Medical Journal*, April 27, 1901) says that adrenalin solutions supply every indication in rhinological practice, for which the aqueous solutions of the extract have been hitherto applied. They can be used in sterile form, and remain unchanged for a long time. A solution of 1-to-1000 is very strong, and is all-sufficient for operative cases, and a 1-to-5000 or 1-to-10,000 for every purpose of local medication. These solutions may be safely applied to persons of every age and of either sex.

RHINOLOGY AND LARYNGOLOGY.

UNDER THE DIRECTION OF WADSWORTH WARREN, M.D.

The Topography of Gustatory Sensation.

Before the Académie des Sciences, Toulouse and Vaschide (*Internat. Centralblatt für Laryngol*, etc., vol. xvii, No. 4) reported the results of some investigations undertaken to determine the above question. They found that various portions of the buccal mucous membrane possess the sense of taste in varying degree.

The lips, the gums, the cheeks, the floor of the mouth, can distinguish only acid tastes.

Salty, sweet, and bitter tastes are appreciated by the tongue and the faucial isthmus.

The borders and the upper surface of the tongue are more sensitive than the under surface, and the middle line of the upper surface is sensitive in a much higher degree that the lateral surfaces. The anterior third of the tongue is more sensitive to salty, sweet, and acid flavors, and the base appreciates those of a bitter quality.

Probably the glossopharyngeus alone cares for the sense of taste, by direct supply from the hyoid bone and the faucial isthmus, and indirectly from the tip of the tongue through the lingualis and chorda tympani.

Sensations of taste of an acid character in those regions not supplied by the glossopharyngeus are probably not pure gustatory sensations, but rather modifications of tactile sensibility.

Treatment of Syphilitic Necrosis of the Hard Palate.

Dr. Lieven (translated by Dr. G. T. Guild for the *Journal of Laryngology*, vol. xvi, No. 4) distinguishes on the roof of the mouth a primary gumma and a secondary form due to extension from the nose.

Both affect the region of the raphe on the roof of the mouth. The second form is the more important, as it almost without exception causes perforation; while by the other, originating on the roof of the mouth, only a lamella of bone is separated. For the removal of sequestra which are firmly adherent, he bores into the bone and loosens it with a hook. By shaking twice daily demarcation occurs in from eight to fourteen days, and it can then be removed. He cautions against the too early use of an artificial plate, as this after a short time does not fit, owing to cicatricial contraction. He advises the application of a plug of cotton-wool to overcome the discomfort; two months after the resulting cicatrization a plate can be made, and six months later operative closure, provided there has been without antispecific treatment no relapse in this time.

The Pancreas in Diphtheria.

Girard and Guillain (Société de Biologie; *Internat. Centralblatt für Laryngol.*, etc., vol. xvii, No. 4) reported upon some post-mortem findings in the pancreas in diphtheria. In twenty two fatal cases of diphtheria in children the authors had never encountered the classical form of hemorrhagic pancreatitis.

The lesions consisted of congestion of the vessels, endoperiarteritis, and endophlebitis, but never diapedesis or embryonal infiltration.

The secretory channels were in general intact.

Taken altogether the changes in the pancreas in diphtheria are not similar to those in the liver, and it appears probable that the pancreas plays no significant rôle in the symptom-complex of this toxemia.

OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,

Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

Alcohol and Tobacco Amblyopia in Cuba.

Dr. C. E. Finlay (*Archives of Ophthalmology*, May, 1901), after a residence of eight years in Havana, Cuba, does not believe the authoritative statements hitherto made in connection with the alleged immunity of the Cubans from tobacco amblyopia. He reports ninety-two cases of alcohol and tobacco amblyopia which occurred in his own practice. He found a marked preference of the disease for the white race; seventy-five of the cases occurred in Cuban or Spanish whites. These cases presented for the most part the usual symptoms of

diminution in the visual acuity, central scotoma, at first for red and green, and finally, if the case is allowed to go on, absolute; the ophthalmoscopic signs, when present, being pallor of the temporal quadrant of the optic disk, in some of the cases leading to a partial atrophy of the outer half.

One acute case, in spite of early and energetic treatment, went on to total blindness of both eyes.

The treatment consisted almost universally of complete abstinence from alcohol and tobacco, and the internal administration of iodide of potassium and strychnine.

Of the forty-five cases which the author was able to follow, twenty-five made a distinct improvement in the diminished visual acuity, sixteen made a slight improvement, while in four of the cases the visual acuity continued to diminish in spite of the treatment.

Blindness Following an Operation for Empyema of the Frontal Sinus.

Dr. Arnold Knapp (*Archives of Ophthalmology*, May, 1901) reported the case of a patient, aged fifty, whom he had operated upon for empyema of the right frontal sinus. The operation was performed according to Kuhnt's method; the entire anterior and inferior wall was removed. The periosteum of the orbit lining the inferior wall was found very much thickened and inflamed. The anterior wall was restored by uniting the periosteo-cutaneous flaps; the lower was left open to admit the packing. On the second day following the operation, while changing the dressings and raising the lid, the patient exclaimed that she could not see. The pupil was fixed and semi-dilated; the ophthalmoscope revealed a condition similar to an embolic process; the retina was hazy and edematous; arteries very small, and at one point the inferior temporal artery appeared obliterated; no swelling of the disk. Three small hemorrhages were about the macula. The edema of the retina gradually disappeared, the hemorrhages were absorbed, the disk went on to simple atrophy, and the patient remained blind.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Lecturer on Dermatology, Detroit College of Medicine.

Benign Epithelial Tumors of the Skin.

In an extensive article on the above subject in the *Journal of Cutaneous and Genito-Urinary Diseases* for April, 1901, B H. Buxton, M.D., instructor in bacteriology, Cornell University Medical College,

says that for cutaneous warts and similar growths the term papilloma is in general use. This word was coined in the early days of pathology, and expresses the idea, then prevalent, that such growths are due primarily to increase in size and numbers of the papillæ. To-day, however, it is generally recognized that the papillæ, as such, play an altogether seconday rôle in the formation of true warts, and that these are due, in the first instance, to proliferation of the epithelium. The word papilloma, therefore, should be dropped in a discussion of the subject of cutaneous growths, although it may conveniently be retained for the purpose of reporting pathological examinations where the chief object is to express the idea of benignity, as opposed to malignancy, and should be used in a general way as descriptive of excrescences arising from a surface, whether primarily of epithelial or connective tissue origin.

Unna distinguishes two types of tumors arising from the epidermis: the keratomas, in which the horny layer is most conspicuous, and the acanthomas, which are chiefly made up of prickle cells, the horny layer being comparatively insignificant.

In the keratomas, under which are included corns and cutaneous horns, the increase of the tumor is, of course, due merely to apposition, there being no actual growth of the dead horny cells themselves. These, instead of peeling off, for some reason or other remain glued together, and being constantly reenforced from below, a warty growth or cutaneous horn is gradually formed.

In the corns, constant pressure from without prevents the usual desquamation of the dead surface cells, which consequently form a hard thick layer, followed secondarily by some increase of the prickle layers. The formation of the cutaneous horns, on the other hand, is probably due to some abnormality in the cells themselves: the horny layer and rete Malpighii increasing simultaneously, the former, however, being by far the more conspicuous, so that cutaneous horns can be distinguished microscopically as well as macroscopically from ordinary warts.

Among the acanthomas, or growths arising from the rete Malpighii, are: (1) Verruca vulgaris; (2) condyloma acuminatum.

1. *Verruca Vulgaris.*—The horny layer is increased in thickness, though but little, by comparison with the rete Malpighii. The rete cells themselves are rapidly replenished from the germinal layer, where mitoses are frequent, whilst keratinization probably proceeds more slowly than normal, as indicated by the prominence of the granular layer. The epithelium sends out long pointed processes into the corium, and between these are the elongated, narrowed papillæ, which show some tendency to branching.

2. *Condyloma Acuminatum.*—In these acanthomas, which occur for the most part around the external genitals and anus, the horny layer is not at all, or very slightly, increased, whilst the greatly thickened prickle layer presents a mulberry or cauliflower appearance, owing to the continued branching of the narrow papillæ throughout their length, the branching being much more developed than in verruca. Mitoses are frequent, not only in the basal or germinal layer, but also in the three or four deepest layers of the prickle cells. The main differences between verruca vulgaris and these may be tabulated as follows:

Verruca Vulgaris.	*Condyloma.*
Gross appearance: Flattened or semicircular nodule.	Cauliflower growth.
Gross appearance: Surface dry.	Surface moist.
Microscopical: Thickening of horny layer.	No thickening of horny layer.
Microscopical: Moderate branching of papillæ.	Excessive branching of papillæ.
Microscopical: Mitoses only in germinal layer.	Mitoses in germinal and also in three or four rows of prickle layer.

Eczema in Old Age.

There is a particular form of eczema in old people, says M. Morris (*Lancet*, May 4, 1901), which is very serious. First of all, as the result of enfeebled vitality old people get an atonic condition of the skin, and with this a form of chronic eczema with short acute exacerbations which does not disappear in the way it does in earlier life. In the aged it may worry the patient nearly into madness by the constant irritation, which, in Macbeth's phrase, "murders sleep," prevents the patients from taking their food properly, and so wears them out. Professor Kaposi has called special attention to this matter of interference with the taking of nourishment. He says that the disease produces a vicious circle in this way: As the result of constant irritation and inflammation of the skin there is a reflex irritation of the intestines which prevents the food from being properly digested. The action of the bowels being irregular, it reacts upon the condition of the skin; there is thus a reflected condition from one side to the other. Whether it is absorbed from the skin and so into the blood it is impossible to say, but at all events their sufferings reduce these unfortunate people to the most dreadful condition, and it is not at all an uncommon thing for old people to commit suicide on account of their eczema. I have met with several cases of the kind. There is one drug for it, and only one as far as I know, and that is opium. As some philosopher has said, it is the drug of the aged, and we must not be afraid to use it. It is too much the fashion nowadays to be afraid of opium.

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ORIGINAL CONTRIBUTIONS.

NATURE IN OBSTETRIC AND GYNECOLOGIC PRACTICE.*

BY B. D. HARISON, M.D., SAULT STE. MARIE, MICH.

Owing to the recent and lamented death of Dr. W. H. Young, of Nashville, who was appointed Orator for the Obstetric and Gynecologic Section, the committee has requested me to fill his place, which I do with some misgivings, as I have not made a specialty of this branch of practice.

It goes without saying that unless the physician of to-day be a student of nature, or I will go further and state that unless he be *instinctively*, as well as by education and practice, acquainted with the aims, variations, and resources of nature, he cannot hopefully or successfully contend against natural or acquired defects in the human family.

The profession of medicine has for its object the relief of suffering, the prevention and cure of disease, and the prolongation of life. Notwithstanding the fact that progress in the knowledge of the causes of disease has been truly wonderful in the past two decades, and though the limitations of medicine are less to-day than in the past, many obstacles to success in the prevention and cure of disease remain to be removed in the future.

Original man was no doubt physically perfect, and following the lines of organic life as we know it, his course of life covered periods of birth, growth, maturity, and decay. He was able to overcome to a greater extent than we can to-day his natural enemies, and could live to an age unthought of at the present time.

Man, although representing the highest type of animal life and

*Oration in Section on Obstetrics and Gynecology at the meeting of the Michigan State Medical Society, 1901.

endowed with superior reasoning powers, and having the faculty of communication with his fellow being, nevertheless is the author and executor of his own downfall. The limitations of medicine which he is constantly and incessantly endeavoring to remove are to a very great extent those of his own making. Man's life for centuries has been one continuous record of ignorance, superstition, and error. He infects the air he breathes, the food he eats, and the water he drinks, and by his own acts contaminates his surroundings, the soil and water of the earth, which in turn develop the bacteria that consume him. From his birth he wages an unrelenting and unceasing war against enemies of his own creation, who in turn are the authors of their own destruction, for germs excrete a substance which is the cause of their ultimate death.

The limitations of medicine are pronounced and the pacific treatment of disease is restricted, but the limitations of disease since the discovery of bacteria and the relations they bear to infectious and contagious disease are also great. The success attained in the prevention of disease has been infinitely greater and more satisfactory than the advances made in its cure, and our knowledge of pathology and the cause of disease has been so greatly increased during the past few years that custom, prejudice, and even apathy have been forced into obscurity in the face of exact knowledge; the scientific application of such knowledge has been used more successfully in the prevention of disease rather than in the cure of it. Prevention, therefore, is the corner-stone of all advances made in scientific medicine, and what has been termed the "period of preventive medicine" is now with us. The old saying that "an ounce of prevention is worth a pound of cure" has more practical meaning in it to-day than in the past.

I have used the term medicine in its broad sense, which term, of course, includes obstetrics and gynecology. The relationship between these two is so close that the specialist of one very often invades the field of the other, for there is little in one that does not concern the other.

You will remember the physiological anatomy of the uterus with its delicately constructed bundles of muscular fibers united together by still more delicate processes of connective tissue, having in its intricate interlacement a most bountiful supply of blood-vessels, glands, and lymphatics. It has been compared to a sponge from the fact of its great power of absorption and secretion, and is analogous to the peritoneum, that anatomical and physiological lymph sac, in that it has the power of disposal of enormous numbers of pus-producing germs under normal conditions. The normal secretions of the uterus are without question antiseptic, and nature undoubtedly intended and

provided it the means for its own preservation in the performance of its natural duties. Elsewhere we observe a similar physiological condition existing in the reproductive organs of animals, and we further note the comparative absence of obstetric and gynecologic diseases in animals. It would suggest to us perhaps that nature itself is not entirely incompetent as a physician, and we ask ourselves the question why there should be comparatively so large a number of obstetric and gynecologic defects in the human family. In answer I will quote my previous statement: "Man, although representing the highest type of animal life and endowed with superior reasoning powers and having the faculty of communication with his fellow being, nevertheless is the author and executor of his own downfall, and the limitations of medicine, which he is constantly and incessantly endeavoring to remove, are to a very great extent of his own making. Man's life for centuries has been one continuous record of ignorance, superstition, and error. . . . From his birth he wages a relentless and unceasing war against an enemy of his own creation."

Parturition is the principal factor in gynecologic cases. Statistics show that from sixty-five to ninety per cent of the cases of gynecic practice are due to parturition, and excepting inversion of the uterus and fistulas due to pressure, nearly all the defects following parturition are primarily due to sepsis, or to laceration, or to a combination of the two. The application of the surgical methods used in gynecology has reduced the excessive mortality of the puerperal state, but the development of procedure in both obstetrics and gynecology is an unbroken record of errors and extremes in practice. It is an undeniable fact that a very large percentage of morbid conditions are chargeable not to nature but to the methods and practices of the obstetrician.

One of the most dangerous and fashionable fads in obstetrics and gynecologic practice during the past ten years has been the uterine curette. It has been an iron-clad rule that upon the first indication of a rise in temperature following abortion, premature labor, or labor at full term, to curette thoroughly, and to follow curettement with strongly antiseptic intra-uterine douching. Nature's means of defense were unrecognized in treatment, and it was the "man behind the curette," or douche, who did the recognized work, if nature was sufficiently strong to withstand the treatment.

It is generally recognized now that the curette is a dangerous instrument to place in the hands of any one except an expert, for the reason that our information in the use of the curette in removing attached portions of placenta or other material, when infection has or has not occurred, is not definite.

Dr. Joseph Price states that "the indiscriminate use of the curette

is little short of being criminal. The woman sometimes develops a little temperature, and the doctor thinks he must use the curette. After having done so he is no better off than before, and really does not know what he has done it for. Nearly all the cases which I have seen a few days after curettement still have some pieces of membrane left in the uterus." In cases marked by high temperature, offensive lochia, and where there is decomposing material which has little or no attachment to the uterine walls, or for removal of adherent portions of placenta shortly after abortion before septic inflammation has occurred, the careful use of the dull curette is certainly indicated, followed by irrigation with sterilized water or salt solution; but when septic endometritis in connection with neurotic infected decidua exists, the curette not only causes a trauma which serves as a means of introducing septic germs into the system, but also destroys the protective granulation layer which nature has interposed for the purpose of limiting the infection, consequently the use of the curette after septic inflammation of the uterus has once developed is always attended with danger from the fact that natural processes are interfered with at the expense of a correct appreciation of the physiological anatomy of the uterus and the pathological condition present which should dictate the treatment. It has been truly said that the proper method of judging of a gynecologist is not so much by his hysterectomies as by how and when he does his curettements.

Another very harmful and much abused fad in obstetrics and gynecologic practice is the so-called antiseptic treatment, a treatment I am rejoiced to say in the course of evolution to the more natural technique of asepsis has been to a large extent abandoned. The neglect of asepsis, the natural method, with dependence upon antiseptics to correct defects, is not only unscientific in the extreme, but demonstrates ignorance of the physiological fact that the normal and healthy secretions of the body, especially the blood, are the greatest of all germicides, for the normal secretions of the uterus and vagina make them uninhabitable for septic germs.

Dr. Price, of Philadelphia, in a recent statement says: "I wish to say that nine out of ten cases of puerperal fever referred to me have been caused by the useless, worthless, and dangerous use of antiseptics. The condition of the medical men to-day, in regard to obstetrics, is that they have microbes in mind all the time. They need to be washed and cleaned. I have seen temperatures of 103° and 104° from intra-uterine irrigation after labor and from the use of the curette. These two things have come to be the fashion in all cases of labor. The mortality and danger following such procedures is probably the cause of at least fifty per cent of the deaths from puerperal fever. I

have in many instances asked the attending physician to discontinue the antiseptics and washings, and the result has been all that could be asked for. In one case I was persuaded by an overwhelming majority in a consultation to use a douche. They had irrigated the vagina and asked me to irrigate the uterus. I asked them to give a twentieth of a grain of strychnine, but they insisted on my using the douche. As a consequence we spent the night with that woman trying to save her from the effects of the douche. It is the cause of more disastrous results than any other practice."

I may be excused from going into detail and mentioning simply for illustration one of the numerous, fashionable, and popular fads in the treatment of a septic uterus following abortion or delivery at term. I refer to the application after curettement of equal parts of carbolic acid and iodine, under the impression that you are disinfecting the uterus. What is really accomplished by this treatment? If the application is made thoroughly as advised and practiced, a coating of necrosed material is formed, which, for a time at least, securely imprisons the multitude of septic germs swarming in the uterine tissues and lymphatics, and prevents their elimination and destruction by natural resources. In addition to this you furnish this multitude of germs with a favorable pabulum for their future existence in the form of necrosed tissue. This outrageous interference with nature must be very discouraging to the innumerable defense cells engaged in unceasing struggle to build up natural defenses, to have not only themselves but their work so ruthlessly interfered with and destroyed. The after-treatment usually adopted in this practice of intra-uterine douches of strong bichloride solution is simply a repetition upon perhaps a milder scale of the carbolized iodine treatment, and is theoretically unnecessary if the former application destroys the germs as claimed.

I know it is popular at the present time to write articles and read papers on conservatism in obstetrics and gynecology, in which the specialists on these subjects are thoroughly lectured upon the error of their ways for unnecessarily sacrificing tubes, ovaries, and even uteri without number in order that their insatiate ambition for experience and fame can be satisfied; but I do not think this criticism is just, for the reason that the specialist does not contribute or originate the defects he remedies or attempts to remedy. The only responsibility the specialist can be justly charged with, if a teacher on the subjects of obstetrics and gynecology, is that he neglects to properly and emphatically drill his students upon the importance of preventive and natural methods. Unquestionably too much time is spent by students of the present day in attendance upon brilliant

hysterectomies, whereas their time could more profitably be used in work having for its object the prevention rather than the cure of diseases.

One is struck upon meeting a recent graduate how familiar he is with the instrumental paraphernalia of the modern gynecologist and his contempt or sympathy for the modest practitioner who has never made a collection of ovaries and tubes. His whole conversation breathes of the determination to wage an eternal and resentful war against the ever-offending generative appendages of woman. This seems strange in the face of modern research, which teaches that success is due to an exact and perfect knowledge of the conditions and resources of nature.

The subject of nature's place and influence in the practice of any one of the many departments of medicine is too extensive for justice to be done to the subject in a brief address or paper. I have simply endeavored to bring together a few facts under the caption of "Nature in Obstetric and Gynecologic Practice," which should at least furnish some food for thought, and for this reason I have not referred specifically to the more common and many defects caused in obstetrical practice through the sometimes unnecessary, but more often unskilful, use of the delivery forceps, nor to the unnecessary and too frequent digital examination per vagina and the neglect of asepsis in connection therewith, nor to the neglect of or unskilful repairing of defects caused either naturally, or still more frequently, by the attendant, who, it is unnecessary to add, is unappeciative of the rôle nature plays in obstetric practice.

THE PROTYLE AS THE BASIS OF ELEMENTAL INDIVIDUALITY

BY NOAH E. ARONSTAM, M.D., PH.G.,

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The aim of this essay is not to advance a new theory concerning atomic constituency, but rather to elaborate, confirm, and advocate the heretofore promulgated plausibility of *protylism.*

Our mind, which is capable clearly to discern objective entities, is prone to drift into a tangle of doubt, into a maze of confusion, when brought face to face with abstractism or artificiality. No matter how correct a deduction may seem, irrespective of the logic significance of a dogma, our mind is apt to repel and disbelieve purely speculative assumptions, which do not belong to the scope of tangible conceptions. Hence hypotheses and theories not infrequently fall into oblivion, and in time may even become obsolete.

This has been the case with the atomic theory. We have readily conceded the existence of the molecule, and have fashioned it as the home of inherent physical forces. As soon, however, as we encounter new and strange manifestations, entirely distinct from the sphere of ponderable physical phenomena, we very adequately—and cleverly so—establish a new basis as a working hypothesis. I refer to the atomic theory and its inherent chemical affinity.

But, fortunately, our mind cannot be chained to a certain doctrine, cannot be made to inhabit a particular soil, does not permit of attachment to exclusiveness and limitation, but like the eagle it soars in the infinite spheres of existence, space, time, and mathematical harmonies.

We have been taught that an atom is the smallest particle of an element that can enter chemical combination, yet we have not denied to it divisibility otherwise; that is to say, while admitting it to be the smallest particle of an element capable of undergoing chemical transformation, we have unconsciously credited it with attributes of further subdivision in other directions. Or, in other words, while we have fanatically adhered to the theory of chemical limitations, we have done so at the expense of fixed physical laws and mathematical assertions.

How absurd to lend ultimate numbers to chemical action while simultaneously attaching to the same numbers the possibility of physical division!

We are well acquainted with the law of conservation of energy and matter; we willingly concede the unimpeachable and indisputable law of the non-destructibility of matter; furthermore, we are convinced of the indivisibility of matter; and last, but not least, we have ample reason to adhere to the principle of conversion of force and matter. Notwithstanding all these, we commit the great, unpardonable error of decorating a certain force with the pretentious plumes of a possible limitability; and we forget that by doing so we invariably—although involuntarily—stamp our logic with the fallacies of contradiction. As long as the indivisibility of matter is an established axiom, entertained beyond controversy, we cannot credit a certain force with the aptitude of creating a new state of affairs or influencing that which is and which will remain fixed by physical law.

The only apology which the atomic theory is able to offer to modern science is (*a*) the heretofore inexplicable nature of these phenomena; (*b*) the repeated inconsistencies and futile attempts at other modes of reasoning; (*c*) the plausibility of such a theory; and (*d*) the lack of a better understanding of the subject under consideration. All of these allow the establishment of such a theory as the atomic as an expedient merely for the present.

Biology descends to the lowest form of life — the protozoon; embryology depicts to us the growth and evolution of the fertilized ovum. Should chemistry stop short at the atom and say: there lies the riddle, the unsurmountable obstacle? Nay! The aim of chemistry is to investigate, to penetrate the labyrinth, and to discover that which gives to the atom, or say the molecule, its elemental individuality.

The expounders of the theory of monism, especially Heckel, assert that evolution and cosmic progression owes its origin to the preexistence of the basic principle of matter, "Der Urschleism" (a homogeneous, viscid, and mucilaginous substance, as the name implies). They further assume that all matter owes its form, multiplicity, and variety to the manner and mode of combination of these ultimate particles. The latter condition is governed by what is called "the law of environment," and the harmony of the entire process enhanced by the "law of proportions"—*i.e.*, by the number or proportion of uniting primitive principles.

The present essay is intended merely to elucidate a certain phase of cosmogenesis and evolution, viz., a subject pertaining to the domains of physics and chemistry. We shall therefore limit our discussion to a sketch of those ultimate substances which comprise the substratum of mineralogic and metallic incipiency, or in other words, which go to form the basis of elements proper.

The ultimate particles of matter capable of mutually combining with each other to form definite or individual elements are termed "protyles;" and the force inherent in each protyle which accomplishes this result is termed "protylism," or "protogenetic force."

As has been intimated above, the multiformity and variety of substance depend not only upon the mode of combination of the protyles and their adaptation to certain environments, but paramount upon the proportion they combine with each other. Hence it follows that protyles combine in definite proportions to form definite substances, which are called elements.

We thus see that the protyle is the basis of all elementary substances, and hence also the basis of elemental individuality. Of course, this is merely a theory, demanding corroboration and calling for realization. It behooves science to penetrate the darkness which as yet surrounds the origin of matter in general, and to lift the veil of uncertainty and fluctuation from the science of chemistry in particular.

Formerly we have been imbued with the iron clad axiom that an element is the simplest form of matter, which cannot by any known means be resolved into anything else. An opposition to this theory was regarded as a sacrilege. But to-day we think differently.

That the above supposition is lacking the essential elements of logic can easily be deduced from the foregoing remarks, since we know that each elementary substance is the home of a definite number of protyles, and that only the latter are responsible for the individuality or characteristics of a particular element.

Who knows but that the atomic weight of elements may in time prove the criterion by which to ascertain protylitic proportions.

Science, however, is ignorant as yet of the exact proportions of protyles necessary to form definite elements. As soon as human knowledge shall discover means by which to isolate the protyles from their varied combinations, as soon as our mind shall approach the specification of the numbers requisite in the construction of elements, we shall then have arrived at an episode in cosmic life when we shall be able to ascertain with mathematical accuracy not only how to produce elementary substances, but also how to utilize, modify, limit, influence, nay, even enhance, the force of all forces, the infinite, cosmogenetic force—protogenetic energy.

THE TREATMENT OF EPILEPSY.*

BY DANIEL R. BROWER, M.D., LL.D.,

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The time allotted to this part of the symposium will permit only a consideration of those methods that personal experience justifies.

Prophylaxis.—The prophylaxis of epilepsy demands much more attention than it ordinarily receives. A convulsion in the infancy of a child of neurotic inheritance is often the first manifestation of an epileptic tendency, and deserves our most serious attention. Instead of simply relieving the child by a hot bath, a calomel purge, and a few doses of bromide, and then dismissing it as cured, we should begin a careful examination of the physical condition and the antecedents, remembering that rachitis, inherited syphilis, and cerebral hemorrhage are important etiological factors often so obscure as to require the most diligent attention in order to discover them, and yet so powerful as to lay the foundation of idiopathic epilepsy.

Children of this tendency should be relieved from all severe nervous and mental strains; they should be kept from the use of alcoholics, opiates, coffee, tea, and tobacco in early age and adolescence, and from sexual irregularities and excesses. Phimosis, errors

*Read before a joint meeting of the Chicago Medical and Neurological Societies, April 3, 1901.

in vision, diseases or deformities of the upper air-passages, or any other abnormality, may demand the attention of specialists, and should be immediately corrected. The ordinary public school is not a wholesome place for these children; their irritability and want of mental balance, often brilliant in certain things and very dull in others, make them a difficult problem for the average school-teacher, and *then* great damage is often done them by overtraining. They need more physical and less mental culture than our present school system affords. Two or three hours of study per day should be a maximum.

The question of occupation is an important one, and parents must sacrifice their ambitions for such children in order to secure their bodily and mental welfare. Horticulture and agriculture furnish the most desirable means of livelihood. The learned professions, perplexing mercantile pursuits, and mechanical trades that require the use of sharpened tools, are manifestly to be avoided. We need special institutions for the care and treatment of such cases, and the Craig Colony of New York State should be our model.

The prophylaxis of post-traumatic epilepsy requires the prompt and judicious treatment of every head injury; while surgery is of but little advantage when months or years afterwards the epilepsy has developed, at the time of the injury it is of inestimable value. Exploratory trephining is frequently indicated, and whatever operations are done on injured tissue should be radical.

The prevention of individual seizures is very important when possible, and it is possible in the cases that have an aura. The epileptic convulsion becomes after a time a habit; you may remove the cause, but the habit will remain; and every paroxysm stopped in its incipiency is a step in the direction of breaking up a bad habit. The nitrite of amyl in the form of pearls of the proper dose should always be carried in a convenient place, so that the instant the warning comes it can be placed in a handkerchief, broken, and inhaled. When the aura is in either extremity, a ligature that can quickly be tightened about it is sometimes a good expedient. One of my cases, who after repeatedly stopping attacks—in which the aura began in the hand—by a silken cord doubled around his wrist that could be quickly tightened, had an entire cessation of the attacks for seven years when I last heard of him. A blister of cantharides around the leg or the wrist in which the aura manifests itself is also effective.

Treatment During an Attack.—The patient should be laid down for obvious reasons, the head raised, and the collar and waistband loosened. If the clothing is tight about the neck, the neck becomes turgid and swollen and there is increased resistance to the return of the blood, and extravasation into the skin and conjunctivæ is probable. The

sleep that succeeds the attack should not be interfered with; if it is prolonged, there will be less headache when the patient awakes.

The status epilepticus is best relieved by a hypodermic injection of morphine, gr. ½ (0.032) to gr. ⅛ (0.008), and a rectal injection of chloral, gr. xv (1.00), repeated every three or four hours, with an ice-bag to the spine.

The Care and Treatment Between the Seizures; Diet.—Individualization is here most important. The old theory that animal food should be avoided entirely is in error. Most epileptics overeat, and bolt their food without proper mastication. The diet should contain a liberal allowance of meat, but should be minimized in quantity, and the individual studied carefully with reference to his digestive capacity. The amount of sugar consumed should be minimized, as I am sure by this means we may provoke a more perfect metabolism of the albuminates and diminish the chances of autointoxication. The deprivation of table salt suggested by Toulouse and Richet, and reported by them to the Paris Academy of Science in November, 1899, is the most important recent addition to the care of these unfortunates. I have found that its complete withdrawal from the dietary is highly beneficial, so much so that in some cases one-half the usual amount of bromides will suffice to control the seizures, and in some rebellious cases the seizures ceased entirely when salt was stopped. A milk diet is well suited to some cases. I was consulted some years ago by a physician engaged in an arduous country practice who committed gross dietetic errors; he became an epileptic, and his efforts to control the seizures by the bromides even in large doses had been unsuccessful. Upon a milk diet, with bread, and a very small dose comparatively of bromide at bedtime, his seizures ceased, and remained absent five years afterward, when I last saw him. Constipation is present in almost all cases, and it must be vigorously combated. So common is it, and so difficult is it to get correct information upon the topic, that I order a laxative in all cases once or twice a week, unless diarrhea be present, and in addition to this an occasional colonic flushing.

Hydrotherapy is an important aid to treatment. A vigorously active skin means a more perfect elimination of toxins. A tepid bath with an abundance of soap is ordered twice a week—temperature 125° F.— and a cold douche of an average temperature of 75° daily, to be followed by vigorous friction.

Cerebral galvanization is of value, and should be employed daily if possible. Large electrodes should be used, and a current strength of from one to three milliamperes. Two steps in this cerebral galvanization are: first, the current is passed longitudinally, the positive over the forehead, and the negative over the nucha; and secondly, from temple

to temple. The séance should last about ten minutes. Some form of gymnastics should be ordered for the great majority of the cases.

Drugs.—These dietetic, hygienic, and constitutional methods are all of the first importance—superior, indeed, on the whole to any drug treatment alone; and without their careful consideration and judicious use the treatment by drugs will be a failure. In estimating the value of any drug treatment it must be borne in mind that the epileptic is highly emotional, and every new treatment carries with it a great suggestive influence, sufficient, indeed, to arrest the seizures. This I have repeatedly demonstrated by the use of colored water; and the same important fact must be borne in mind in estimating the value of all late surgical procedures.

The bromides still hold the first rank in the treatment, as they have done since they were introduced by Lacock, in 1853. They must be used with proper precautions and bromism avoided, and for a long time. No case can be called cured until the seizures have been stopped for at least five years. Their curative action requires the production of their full physiological action, but not their toxic. I rarely exceed one drachm (4.00) a day, and am of the opinion that one and a half drachms (6.00) should not be exceeded in any case. It is very much better for the patient that he has an occasional seizure than that the disastrous effects of bromism be reached and maintained. While many epileptics have been cured and many others greatly improved by the judicious use of the bromides, yet the records of our hospitals for the insane show many wrecks from their heroic use. I prefer the bromide of sodium because least disturbing to the stomach. It should be given after meals, in a large quantity of water, and three times a day. A serious objection on the part of some patients to the use of the bromides is the acne which it produces, a result that depends less upon the dose than upon the idiosyncrasy of the patient. Some patients have it developed by very small doses, and others only by the continued use of a maximum dose. Taking the mixture with a very large amount of alkalinized water diminishes the amount of it, as does also the addition of liquor sodii arsenatis in from three to five minims (0.20 to 0 30) to each dose. The arsenic, moreover, by its alterative and tonic properties, aids the cure.

The iodides are indicated in almost every case, not only because they have a specific effect on the cerebral sclerosis or gliosis that is present to a greater or less degree in every case, but also because of antitoxic and eliminative powers. In ordinary cases the iodide of sodium should be given in five grains (0.30) three times a day, in the bromide mixture. In the syphilitic cases it should be given in the largest dose that is possible. The cases of epilepsy that begin after

twenty-five years of age are usually syphilitic, and must be treated heroically with the iodides and mercury. As an alterative, when the iodides are not well tolerated, I frequently use with advantage the chloride of gold and sodium in gr. $\frac{1}{30}$ to gr. $\frac{1}{15}$ (0.002 to 0.004), in capsules half an hour before meals.

Another drug of much value is the fluid extract of adonis vernalis, ℥ 1 to 5 (0.65 to 0.30). The researches of Dr. H. A. Hare (*Therapeutic Gazette*, April, 1886) determined that this drug was not cumulative, that it did increase the energy of the cardiac contractions, regulate the pulse, increase urinary solids, and depress the sensory tracts of the spinal cord. Now, many of the cases of epilepsy will be found to have some cardiac disorder, not necessarily a valvular disease, although this is common, but an irritability, irregularity, and feebleness of the heart's action, and we know that the exciting cause of a seizure usually travels from the periphery up the sensory tracts of the spinal cord to the cerebral cortex. The physiological actions of this drug would make it therefore of considerable service in this disease. I very much prefer it to any other of the cardiac tonics.

Chloral: When the moderate doses of the bromides already indicated fail to stop the seizures, I advise a dose of gr. x to gr. xx (0.65 to 0.30) of chloral at bedtime, often with benefit.

Acetanilid: This drug is synergistic to the bromides, and when administered in gr. 2 to 5 (0.12 to 0.30), three times a day, will sometimes be of service.

The opium-bromide treatment, proposed by Fleichsig, in the few cases in which I have used it has not been satisfactory.

Glonoin and the nitrate of sodium are valuable remedies against the *petit mal* attacks, when given in conjunction with the bromides.

Intestinal antiseptics are important drugs; the best are salol, salicylate of bismuth, and guaiacol carbonate.

Tonics are required in most cases. Strychnine, arsenic (already mentioned), the hypophosphites, phosphoric acid, and iron, are all at times of service. I give iron, preferably the bromide, in gr. ½ (0.032) dose, three times a day, whenever the hemoglobinometer indicates it, and then it is of great value.

Surgery.—Dr. L. P. Clark, of Sonyea, N. Y., has so admirably summarized the present status of trephining in the *Medical Record* of January 12, 1901, that I cannot do better than quote it:

"1. Idiopathic epileptics with typical *grand mal* seizures should never be trephined.

"2. Idiopathics in whom seizures are of the Jacksonian type should be trephined only when infantile cerebral palsies can be excluded, and when the family and personal degeneracy is at a

minimum; if operation is determined upon in such cases, a very thorough removal of the epileptogenic area should be made; even then but a fraction of one per cent recover from their epilepsy.

"3. Traumatic epileptics may be trephined when the injury is definitely proved and stands in direct causal relation and has existed not more than two years. The prognosis will then largely rest upon the degree of the neurotic predisposition present. The earlier trephining is resorted to after convulsions begin, the better the prognosis."

I regret exceedingly that the results which have followed cervical sympathectomy, oophorectomy, ligating the vertebral arteries, and ligating the carotid arteries, have not been such as to justify advising them. If epilepsy is essentially a disease of the cell bodies, of cortical neurons, and a proliferation of the neuroglia, then all such operations are unscientific and must fail.

The colony system is the highest ideal for the treatment of these unfortunates. The proof of this is overwhelming in results obtained, both at home and abroad, and it is most unfortunate that the bill beginning such a system in Illinois now before our State legislature may not pass at this session, because of the contention as to a proper location of the colony.

THE University of Pennsylvania is, according to the *Medical Record*, about to erect, at a cost of more than $500,000, exclusive of grounds and equipment, a medical laboratory building. It will be quadrangular in shape and will be located on the south side of Hamilton Walk, between Thirty-sixth and Thirty-seventh Streets. The building will be two stories in height above a high basement, and will measure three hundred and forty feet front by near two hundred feet in depth. All along the front are arranged small rooms for research, rooms for professors and their assistants, a library, etc.; these open into a private corridor, so that men employed in these rooms may pursue their work without interruption from students passing through the main halls. Perfect lighting of all the laboratories has been obtained, the courts being large enough, with the low front building, to furnish good north light to the laboratory of pharmacy and pharmacodynamics on the first floor, and to the laboratories on the second floor devoted to pathology, the north front of these rooms facing on the courtyard being made almost wholly of glass and extending higher than the front, so that steady north light will be thrown to the back of the room.

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EDITORIAL ARTICLES.

VIEWS ON VEGETARIANISM.

The advocates of exclusively vegetarian diet are not as numerous as they used to be, and it is interesting to note the change of opinion which has resulted from more extended knowledge of the effects produced by restricted dietaries. This change of opinion was well reflected in a recent discussion of the matter before the Berlin Medical Society, in which many leading clinicians and investigators participated.

Rosenheim declared an exclusively vegetarian diet harmful because it contained an insufficient amount of albumen, and led to diminished resistance in infections, besides which the persons who strictly observed it could not do the normal amount of work. He had renounced the strictly vegetable for a lacto-vegetable regimen, one which included milk, butter, and eggs. This diet he employed with advantage in gastric ulcer and in patients who exhibited a distaste for meat. In constipation it was not unwise to recur to an exclusively vegetable diet with plenty of fruit and nuts.

Gravitz thought that exclusively vegetable alimentation was of much use in neurasthenia, diminishing fermentation in the digestive tract.

Schonstadt regarded a vegetarian diet as in the nature of a graduated fast, and ending in an ultimate loss of strength. In order to maintain nutrition it would be necessary to take 1740 grammes of bread, while it was difficult to obtain consumption of more than 800 grammes. He recorded how in 1854 a bad epidemic of scurvy occurred in a prison in Waltenburg, in which the prisoners had an exclusively vegetarian diet; the epidemic disappeared on the resumption of a mixed diet.

Furbringer thought many of the good effects of vegetarianism were

due to suggestion. He employed exclusive diets in obesity, sexual neurasthenia, and in alcoholism. For nephritis a lacto-vegetable dietary was the best.

Meyer, who had experimented on himself, thought that exclusive vegetarianism exalted the gastric acidity.

Ewald did not deny that certain individuals could exist on an exclusive diet, but claimed that for these a special digestive apparatus was a necessity.

Hanchecorn pointed out that in all zoological groups the carnivorous animals are superior in force and intelligence to the herbivorous.

Exclusive vegetarianism will therefore in all probability in the near future be relegated to the limbo of defunct theories, mankind being nevertheless the wiser if not the happier for having tried it.

EDITORIAL NOTES.

The Debilitating Effects of Literature.

That reading indiscriminately has become a kind of opiate for fatigued nerves formed the theme of an address by President Gilman, of Johns Hopkins University, to the graduates of the woman's class. He deplored what he called "an era of Carnegie—too much reading," and said: "Reading is a kind of craze that has gotten hold of the people. It is a dangerous habit, like a stimulant. The publishers are constantly putting forth new attractions in the field, and the reviewers excite our appetites. It is no doubt very pleasant to be up to date, well posted, and in the swim about the latest issues from the press, but we are all in great danger of reading too much."

The Doctor gave the students this advice: First, don't read too much; secondly, study the art of thinking; thirdly, use your hands and enlarge your mission by the use of the microscope.

The Ruling Passion.

A variation in sick room entertainments is recorded by Dr. Conan Doyle among his South African experiences. Three officers, confined to hospital by fever, diverted themselves by throwing half-dollars into a bowl, the stakes being won by the patient whose temperature was the highest when the doctor made his rounds. This doubtless showed an admirable spirit on the part of the patients, and it is to be regretted that this form of recreation is not capable of more general adoption.

ITEMS AND NOTES.

Dr. N. Senn starts on July 4 for a trip around the world.

The use of absinthe in France is said to be on the decline.

Havana, Cuba, is reported to be entirely free from yellow fever.

A World's Congress of Tuberculosis is to be held in London in August.

It is proposed to erect at the place of his birth a memorial to Professor Huxley.

In nearly all the larger cities of Great Britain the scientific disposal of all sewage is made.

The British Medical Association will meet at Cheltenham, England, July 30 to August 2, inclusive.

Dr. Lillie Saville has had conferred on her by the King of England the decoration of the Red Cross.

Mr. J. P. Morgan recently presented the Hospital of Aix-les-Bains, France, with a gift of 50,000 francs.

In France a tax of ten per cent is levied on all theater tickets sold, for the maintenance of paupers in that country.

Dr. W. H. De Witt, of Cincinnati, desires reports of cases bearing upon the inherited tendency to appendicitis.

The Long Island College Hospital in Brooklyn is to have a new structure, to be erected at a cost of over $175,000.

The medical department of the University of California this year graduates a Japanese girl, Una Yone Yanagisawa.

Nearly every part of the Central American States has been visited recently with mumps of quite a severe type.

St. Petersburg has decided to erect a new children's hospital in that city in commemoration of the coronation of the Czar.

The Board of Health of Hartford, Conn., is waging war against mosquitoes by means of kerosene sprinkled on the ponds and marshes.

In Berlin no case of rabies has been known since 1873, when a law was passed requiring the compulsory muzzling of all dogs during the year.

PROFESSOR LEVSCHIN, of Moscow, will found a hospital for carcinomatous patients. He has been successful in raising nearly $200,000 for that purpose.

DR. MATTHEWS, professor of physiologic chemistry of the Harvard Medical School, has accepted a position on the faculty of the Medical School of the University of Chicago.

THE Chicago Home for Incurables has been presented by Marshall Field with ten lots adjoining the ground now occupied by the home. The property is valued at about $50,000.

THIRTY-FIVE thousand dollars has been received by the Allentown hospital, Pennsylvania, for the purpose of erecting an additional wing to the hospital for the treatment of surgical cases.

FIFTY thousand dollars has been donated to the Royal Hospital by Alfred Harmsworth, of the *London Daily Mail*, for the purpose of installing a plant for the electric light cure of lupus.

THE *Northwestern Lancet* states that the Iowa State Board of Medical Examiners has refused to recognize diplomas from Barnes Medical College of St. Louis as entitling their holders to enter the State Board examinations of Iowa.

A NEW Russian medical journal, entitled *Russky Vratch*, will succeed the present Russian medical journal *Vratch*. The new journal is to be dedicated to the memory of Manassein, the founder of the original *Vratch*.

ACCORDING to Dr. Brunon, director of the Rouen School of Medicine, the English method of combating tuberculosis with good food and outdoor exercise is more efficacious than the sanatorium system observed throughout Germany.

AT the end of the academic year 1899–1900 the number of medical students in the Paris Faculty was 4315. At the opening of the present academic year on October 1 it was 4166, a decrease of 149. This decrease is attributed to the new programme of studies and to the regulations as regards foreigners obtaining the state diploma.

ACCORDING to an exchange, Mlle. de Noualhier has a hobby for caring for consumptives in the last stages, found in Paris, from which city she has them taken to a villa in Limoges, not far away, to be eased in their last moments. She works only among the destitute consumptives, taking them to her château, where they are cared for and buried at her expense. She began her work some five years ago.

MAJOR ROSS has had placed at his disposal by a wealthy Scotchman a sum of money sufficient to make a year's thorough trial of the relation of mosquitoes to malaria in some malarious district of West Africa. A corps of workers with necessary equipment will proceed shortly to Sierra Leone to begin the work of extermination.

IN view of the increase of cases of diphtheria in Paris and the provinces, the Minister of the Interior has addressed a circular to the medical men under his control exhorting them to make a free use of the serum. The circular states that when used early, the first or second day at least of the malady, the mortality is only five per cent, whereas when delayed two, three, or four days, the chances of the patient are considerably compromised.

ACCORDING to an exchange, a society has been formed in Paris to promote the establishment of combination milling and baking houses in all the large French towns. It has for its object the production of 100 kilogrammes (220 pounds) of nutritious, digestible white bread from 100 kilogrammes of grain at the lowest cost, made by the Swiss system. Official analyses made by the National Agronomical Institute and by the Municipal Laboratory of Paris show that Swiss bread contains more nutritive nitrogenous properties and more phosphates than ordinary baker's bread.

MANY French, Swedish, and German cities, but particularly Leipsic and Plauen, in Saxony, says an exchange, have a plot of land not far removed from the schools, where gardening is taught to the children on one or two afternoons in the week. They learn not only how to sow the different kinds of vegetable seeds, how to transplant trees, how to tell when melons are ripe, how to care for strawberry beds in all seasons, but also learn the botanic names and relationship of the plants, and the name and appearance of all the common weeds and the poisonous plants, which are plotted by themselves and labeled. A little pond holds aquatic flora.

ACCORDING to an exchange, Dr. Angel Bellinzaghi, whose experiments with yellow fever serum obtained last year the official recognition of the Mexican government, announces that he has found an active vaccine, which he believes will insure absolute and permanent immunity from the disease. Immunity by means of his serum was only temporary. A quantity of the serum and the vaccine is being prepared for use in Cuba, where he proposes to demonstrate their value. He delicately suggests that some medical institution, or even the United States government, might supply the means for these tests, and he is careful to invite reporters to watch them.

ACCORDING to the *Medical Record*, the Russian government has undertaken to collect statistics regarding the prevalence of cancer in all parts of the empire. The cancer census paper, besides asking for information about the antecedents — personal, hereditary, and collateral—of cancerous persons, also demands facts concerning birthplace, habitual residence, pecuniary means, use of tobacco, diet, drinks, etc. It is thought that it will be possible to compile a cancer map of the country, showing that the disease is practically confined to certain districts.

THE census shows, says *American Medicine*, that there is one registered physician to every 655 people in the United States, while in Germany, in 1898, there was but one doctor to each 2114 of population. Some States, however, have proportionately more practitioners than others. In California, for instance, the ratio is as 1 to 416, while in North Carolina it is as 1 to 1189. This disparity is particularly pointed sometimes in States similarly situated—Michigan's ratio is as 1 to 570, Wisconsin's proportion but 1 to 936, and Minnesota has but one doctor to each 1004 people.

THE London *Lancet* of recent date calls attention to the dangerous ingredient of finely crushed glass splinters added to some high-grade candy to give it a sparkling appearance, and supposed to be adopted to compensate for the absence of any crystalline appearance in glucose, which is used so largely as a substitute for cane-sugar in confectionery. When the candy is dissolved in warm water the splinters fall to the bottom of the tumbler in a tiny heap of broken glass. Two children who ate of this candy shortly afterwards suffered from severe abdominal pain, in one case in the region of the appendix. The pain persisted for several days.

EXTERMINATION of rats by means of the generation of sulphurous acid gas of a high strength has been, says *American Medicine*, successfully tried on the *Jelunga*, a steamer of the British India line. The apparatus used is a small cylinder in which rolled sulphur is burned until it vaporizes, and air being admitted into the chambers where this vaporizing takes places, the combination of oxygen and sulphur vapors furnishes the sulphur oxide gas. The hatches of the *Jelunga* were closed and the gas admitted. The space operated on comprised 600,000 cubic feet. The next day when the vessel was opened dead rats were lying about, and all other forms of vermin were extinct.

THE following have been appointed contract dental surgeons in the army, in accordance with the provisions of the army reorganization law: John S. Marshall, Illinois; Robert T. Oliver, Indiana;

Robert W. Morgan, Virginia; Emmet J. Craig, army; Samuel W. Hussey, army; Clarence Lauderdale, New York; S. Davis Boak, West Virginia; Franklin T. Wing, Montana; George L. Mason, Massachusetts; Hugo C. Rietz, Wisconsin; William H. Ware, California; Ralph W. Waddell, Ohio; Frank H. Wolven, New Jersey. These men are not commissioned by the President, but serve under three-year contracts made with the surgeon-general. They are not designated as officers, but wear the uniform of a first lieutenant, save that the braid on the shoulder-straps is silver instead of gold.

A CHICAGO daily paper is authority for the following: Dr. Dudley S. Reynolds, one of the founders of the Louisville Hospital College of Medicine, and a member of its faculty from its inception, has been dismissed from the institution because of his antagonism to cigarette smoking. He is now suing Central University, of which the medical school is a part, for $15,000 damages. Dr. Reynolds, in his lectures to his classes, denounced cigarette smoking and smokers in unqualified terms. The students took offense and refused to attend his lectures unless an apology was made. This he declined to do. At this juncture the faculty joined with the students and requested his resignation. Again he declined, and his dismissal followed.

THE *New York Evening Post* is authority for the following: Recent inquiry at the offices of four of the largest hospitals in New York—namely, St. Luke's Episcopal, on Cathedral Heights; the Presbyterian, in Madison Avenue; the German, at Park and Lexington Avenues; and the Roosevelt, at Ninth Avenue and Fifty-eighth Street—brought out the fact that every one of them was struggling under a deficit, representing the difference between the institution's income and its expenditures for the year. In this respect the Presbyterian is perhaps the worst off, the treasurer reporting that during last year the current expenses exceeded receipts by $77,364 32. Next comes St. Luke's, with a balance of $62,043 on the wrong side; while the German and the Roosevelt are comrades in poverty to the extent of about $11,000 during the last year.

A CABLE from Berlin to an Eastern medical journal says that the treatment of diseases by the use of colored light, however much it might be ridiculed, is obtaining a footing there. The latest novelty is the cure of measles with a red light. Dr. Chatinier publishes in a popular medical magazine the results of a number of experiments, all having been favorable. Patients with measles are kept in rooms lighted with subdued red light, much like that in a photographer's dark room. Dr. Chatinier uses red silk paper pasted on his window

panes. The patient receives no medicine. Dr. Chatinier explains that the prevailing red light enables the inflamed skin to rest. All other colors, especially strong shades of violet, excite the skin. He was first attracted to the discovery by noticing that the peasant women in his district always wrapped children with measles in red cloth.

FOOD preservatives have, according to *American Medicine*, been investigated by Professor Bigelow of the Agricultural Department at Washington, who finds that the manufacture of them has become a distinct line of business. Out of the sixty-seven samples of the most common preservatives in use, each of which was obtained with great difficulty when it was known that it was wanted for a chemical analysis, thirty-three of them contained borax or boracic acid; ten sodium, potassium, or calcium sulphite; eight salicylic acid or its sodium compound; seven benzoic acid or its sodium compound; one boric and salicylic acids; one boric acid and ammonium fluoride; three formaldehyde; one ammonium fluoride; two pyroligneous acid; and one beta-naphthol. Professor Bigelow holds that those undoubtedly injurious, such as formaldehyde, salicylic acid, and sulphites, should be proscribed, and some stringent law enacted to control their use.

THERE are now, says the *New York Medical Journal*, 149 patients undergoing treatment at Fort Bayard Hospital for Consumptives, instituted about a year ago by Surgeon-General Sternberg. This establishment is the only one of its kind in the country devoted to military and ex-military patients. While at first looked upon rather as an experiment, such promising results have been obtained that it is now regarded as an institution. Fresh air, and plenty of it, is deemed the first essential in the treatment, with brisk walks in the invigorating atmosphere, plenty of sunshine, and nutritious food. For patients not able to walk about there is a solarium or "sun parlor." A number of patients have so closely approached complete recovery that they have been discharged to duty, and the majority have showed marked improvement. While the hospital is for the use of the army, discharged soldiers are kept on the rolls of the institution. Of the 149 patients mentioned, sixty-four are ex-soldiers.

NEW PUBLICATIONS.

COAKLEY ON THE NOSE AND THROAT.

About a year ago Dr. Coakley's manual on diseases of the nose and throat appeared from the press of Lea Brothers, and in that time the first edition has been exhausted, and we now have the pleasure of noticing the second enlarged and improved edition of the same work. The book appealed at once to the profession, and achieved a very wide usage, the first edition being exhausted nearly a year sooner than was anticipated by the publishers. This new edition will be welcomed as a clear, concise, and trustworthy presentation of the subject of which it treats. The volume is not large, but for the general practitioner the book is quite sufficient, and the specialist will find it in the greatest degree helpful as a volume of quick reference and consultation. The size and number of its engravings and colored plates have been increased.

Coakley on the Nose and Throat. The Diagnosis and Treatment of Diseases of the Nose, Throat, Nasopharynx, and Trachea. For the Use of Students and Practitioners. By Cornelius G. Coakley, M.D., Professor of Laryngology in the University and Bellevue Hospital Medical College, New York. New (2d) Edition. In One 12mo Volume of 556 Pages, with 103 Engravings and 4 Colored Plates. Philadelphia and New York: Lea Brothers & Co., 1901.

A REFERENCE HANDBOOK.

The second volume of the reference handbook carries the reader from blastoderm to chloraloximes. The volume contains many notable articles. Those on blood, brain, bronchitis, carcinoma, and many others are each masterpieces, and will be found thoroughly modern in tone and spirit. The amount of information to be derived from this work is, however, confined to the more important articles. The uses of a dictionary, amplified and elaborated to the dimensions of an encyclopedia, are many and significant. It is doubtful if the reader will ever suffer disappointment in his search if he consult this magnificent handbook whenever he may need information from the byways as well as the highways of medicine.

A Reference Handbook of the Medical Sciences. Embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. A New Edition, Completely Revised and Rewritten. Edited by Albert H. Buck, M.D., New York City. Volume II. Illustrated by Numerous Chromolithographs and 765 Half-tone and Wood Engravings. New York: William Wood & Co., 1901.

INFANT FEEDING.

The reader will find this one of the best manuals on infant feeding it has been his good fortune to encounter. The whole question of infant dietaries is most carefully considered, and a thoroughly impartial estimate seems to have been made of the food values of the different prepared foods. The work is one of great practical value to the practitioner. It is brief and to the point in all the matters whereof it treats. It is scientific and thoroughly modern in tone, and reflects in its pages the vast personal experience of its author.

Infant Feeding in Health and Disease. A Modern Book on all Methods of Feeding. For Students, Practitioners, and Nurses. By Louis Fischer, M.D., Attending Physician to the Children's Service of the New York German Poliklinik; Bacteriologist to St. Mark's Hospital; Professor of Diseases of Children in the New York School of Clinical Medicine; Attending Physician to the Children's Department of the West-side German Dispensary; Fellow of the New York Academy of Medicine, etc. Containing 52 Illustrations, with 16 Charts and Tables, Mostly Original. 368 pages, 5¾ x 8 inches. Neatly Bound in Extra Cloth; Price, $1.50, net, delivered. Philadelphia, Pa.: F. A. Davis Company.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Differential Diagnosis in Diseases of the Breast.

If a lump is found in the breast, the question arises, says J. O. Warren (*Annals of Gynecology and Pediatry*, May, 1901), of a differential diagnosis between cancer and other disease. We must, says Warren, keep steadfastly in mind the period of life in which the patient is, and the probability of other diseases of that period being present in this case. The ill-defined character of the lump is suggestive of cancer, and also, of more importance still, the presence of glands in the axilla. In hardly any other disease are enlarged and indurated glands to be found in the axilla. Small glands may be found that are perceptible to the touch in almost every axilla, some of them perhaps tolerably hard, but if distinct glands matted together with induration are found, it is a suggestive symptom. The presence then of a lump in the upper outer quadrant and glands in the axilla of a woman forty-five years of age will be almost pathognomonic of the disease. And yet it is possible that the nodules may be a cyst, because cysts are so hard that they often pass for an indurated mass. Although the substance of the cyst may be hard, its outline is much better defined than that of a cancer, and cancer must be regarded not as a tumor of the breast, but an infiltration of the breast tissue. When the disease has progressed further, the affection is much more easily recognized.

Cancer of the Stomach with Unusual Vascular and Blood Conditions.

At a recent meeting of the London Clinical Society (*Lancet*, May 18, 1901) Dr. W. Pasteur and Dr. C. Price-Jones communicated a paper on a case of "Cancer of the Stomach with Unusual Vascular and Blood Conditions." The patient, a metal chaser, aged fifty-one years, had suffered from gastric trouble for five years. On admission he was very weak and profoundly anemic, and was much emaciated. A tumor was felt near the umbilicus, which moved with respiration. The symptoms pointed to cancer of the stomach. On the sixth day after admission the nose became dusky, and two days later had acquired a deep purple color with sharply defined margin which persisted till death. At the same time the toes of both feet became blue-

black in color and insensitive. No pulsation was perceptible in the posterior tibial and dorsal arteries. A few small bullæ containing clear sterile fluid formed on the toes of the right foot. An examination of the blood made on the same day showed red cells 1,460 000, and white cells 24,000. Analysis of the white cells gave: hyaline mononuclear cells, 44.59 per cent; granular polynuclear cells, 54.35 per cent; granular mononuclear cells, 1.02 per cent; and numerous normoblasts, megaloblasts, megalocytes, microcytes, and poikilocytes. Death took place twelve days after admission.

The necropsy revealed a cancerous growth infiltrating the wall of the stomach near the lesser curvature and invading the adjacent structures. The right posterior tibial artery was patent and appeared healthy. The capillary stasis in the nose and feet was indistinguishable from the condition often met with in Raynaud's disease. The state of the blood, though resembling that of pernicious anemia in several respects, differed from it in others, notably in the increased number of white cells and the preponderance of normoblasts over megaloblasts. Various observers have recorded states of the blood somewhat resembling that of pernicious anemia in cases of malignant disease, but the results so far have not established the existence of any special diagnostic characters.

Occult Gastric Hemorrhages.

Boas, of Berlin (*Deutsche Med. Woch.*, May 16, 1901), says that hemorrhage of the stomach occurs in two forms, as in well marked hemorrhage and as minute quantities from the capillaries, ulcers, or ulcerating growths. In both cases the blood has either its normal color or the well known coffee-grounds appearance. If the hemorrhage is very slight, and especially if the reaction be acid, there is no appreciable change in the stomach contents. The author has examined a large number of such stomach contents, wherein there was nothing to indicate the presence of blood, but more or less blood was found. Webber's guaiac test proved to be the most satisfactory, excelling the spectroscopic, chemical, and microscopic tests in delicacy. Boas calls this oozing of the blood, which cannot be detected by the naked eye in the stomach contents, occult hemorrhage. In obtaining such material for examination care should be taken that the stomach-tube does not abrade the mucous membranes and thus produce a slight amount of blood. In the vomit, traces of blood many times come from the mouth, pharynx, or esophagus. An examination of eighty-three cases of stomach diseases for blood showed three groups. The first, embracing the neuroses, gastritis anacida and subacida, hyperacidity, hypersecretion, and benign dila-

tation, gave negative results. In group two the results were not constant, sometimes blood was present, sometimes absent. These consist of ulcer, duodenal stenosis, syphilis of the stomach, and one probably carcinomatous stenosis of the large intestine. Group three was characterized by constantly positive results and included one case of stenotic gastritis and all cases (twenty) of carcinoma. The occurrence of occult or concealed hemorrhages seems to depend mostly upon three conditions—typical ulcers, new growths with tendency to ulceration, and severe congestion. As a diagnostic point occult hemorrhage is not itself of much value, but is an aid when taken into consideration with other symptoms. Boas suggests that these occult hemorrhages account for the marasmus of carcinoma by such patients bleeding to death drop by drop, and it may be that remedies will be found which will arrest this tendency to bleed.

Erythema from Chemical Irritation of the Urethra.

Heller (*Deut. Med. Woch.*, March 14, 1901) reports the case of a man thirty-three years of age who had gonorrhea in 1892 and an acute exacerbation in 1893. In 1895 he had a new infection or an exacerbation. Two years later he married after getting the permission of four physicians, but infected his wife. He seemed after treatment entirely well. Last October, after bathing the penis in 20 per-cent creolin he had a marked swelling of the organ, and in a week a noticeable secretion from the urethra; also swelling of the right wrist, the skin of the fingers and back of the hand being edematous. The urethral secretion contained no gonococci, a few diplococci, and a large number of other cocci with a few pus cells. Next a general erythema multiforme broke out and persisted for over a month. However, soon after this he recovered. Heller has been unable to find anything in the literature of such an outbreak after chemical irritation of the urethra, though such skin affections have been reported with gonorrheal or other inflammations of the urethra.

Fracture of the Skull.

T. H. Manley (*American Journal of Surgery and Gynecology*, May, 1901) reports a case of fracture of the skull in a boy nine years old, who was struck on the side of the head by a swiftly moving trolley-car. On exposure by incision of the outer cranial wall a cylindrical fracture, non-displaced, was seen. The wound was closed, except at the ends (for drainage). Recovery was rapid.

In this case, although the brain must have suffered, there were no marked cerebral disturbances.

In connection with cerebral fractures, the following will prove of some avail:

1. In cranial traumatism, cerebral localization is very often indefinite.

2. In depressed fractures, the chisel and mallet should entirely displace the trephine.

3. Subcutaneous cocainization will largely set aside pulmonary anesthetics in most skull injuries.

4. With sterile sutures in a clean scalp wound, we may, as a rule, close the wound.

5. Mustard powder is an excellent and effective antiseptic for scalp wounds.

6. Operative surgery is comparatively impotent in all grave intracranial injuries, especially of the brain.

The Diagnosis of Frontal Tumors.

Hoeniger (*Münch. Med. Woch.*, May 7, 1901) reports the histories of three cases of new growth in the frontal lobes, the diagnosis being confirmed by autopsy in one. The conclusions to be drawn are that when a cerebral tumor begins with psychic disturbances, or when they appear in the course of its development, localization in the frontal region may be suspected. But the diagnosis is only positive when frontal ataxia, contraction of the rump muscles, or disturbances in the speech appear as focal symptoms, together with "neighboring symptoms," which appear either from the motor region or from the basal nerves according to the direction of development.

The psychic manifestations peculiarly characteristic of tumors in this region are a loquacity and a tendency to make puns and jokes on all subjects, which is explained by an irritation of the motor speech centers located in the third left frontal convolution, and consequently is most frequently observed when the lesion is on the left side.

Movable Kidneys; Cause and Treatment.

M. L. Harris (*Journal of the American Medical Association*, June 1, 1901) says that the essential cause of movable kidney lies in a particular body form. The chief characteristics of this body form are a marked contraction of the lower end of the middle zone of the body with a diminution in the capacity of this portion of the body cavity. This diminution in the capacity of the middle zone depresses the kidney so that the constricted outlet of the zone comes above the center of the organ, and all acts, such as coughing, straining, lifting, flexions of the body, etc., which tend to adduct the lower ribs press on

the upper pole of the kidney and crowd it still further downward. It is the long-continued repetition, in a suitable body form, of these influences, which collectively may be called internal traumata, that gradually produces a movable kidney. A distinctly movable kidney is never the immediate result of a single injury or external trauma.

Sterilization of Silk Catheters.

M. W. Herman (*British Medical Journal*, June 1, 1901) states that if silk catheters are boiled in plain water they soon become rough, cracked, and totally unfit for use. If, however, they are boiled in a saturated solution of ammonium sulphate they remain unchanged. Boiling for three to five minutes in the solution is sufficient to sterilize extremely dirty catheters, but they may be boiled for five hours and retain their polish. The only change is that they become more elastic and are therefore improved. After being removed from the solution they may be lubricated with vaselin and used immediately, without being dried, since the solution of ammonium sulphate does not irritate the mucous membrane. Nélaton and elastic catheters may also be sterilized by boiling in the same solution.

MEDICINE.

Mammary Actinomycosis.

M. St. Mileff (*Gazette des Hôpitaux*, January, 1901) draws the following conclusions: Mammary actinomycosis is a disease common to both man and animals, being very infrequent in the former and common in the latter. In animals infection occurs almost exclusively through the milk canals, an opinion proved experimentally by Johne. In man two forms of mammary actinomycosis are distinguishable, viz.: (1) primary mammary actinomycosis; (2) secondary mammary actinomycosis. Primary mammary actinomycosis is due either to the propagation of actinomycosis grains in the milk ducts or to the penetration of these grains into the mammary tissues from a solution of continuity of the skin caused by traumatism or some other affection. The author has collected four cases of primary mammary actinomycosis. Secondary mammary actinomycosis is due to the extension of actinomycosis from some other part or organ, most generally the lung. Mammary actinomycosis is difficult to diagnose, and may simulate an interstitial mastitis, a mammary tuberculosis, cancer of the breast, or even a tertiary syphilitic lesion.

If mammary actinomycosis is suspected, a microscopic examination

of the pus or a piece of tissue is necessary, which must be repeated if nothing is discovered at the first examination. The prognosis in primary mammary actinomycosis is good, but in the secondary form it is more serious, and even fatal when an important organ like the lung is attacked.

The only rational treatment is the surgical one. As soon as the diagnosis is established the diseased focus should be removed, and the suspected tissues should be scraped and cauterized until one is certain all the diseased tissue has been removed. In cases where surgical treatment cannot be applied methodically, the fistula should be scraped, painted with tincture of iodine and strong carbolic acid, and iodide of potassium given internally.

Microbian Flora of the Human Body.

In a recent lecture by Dr. E. Metchnikoff, of the Pasteur Institute, the lecturer said that the body of a new-born infant is free from microbes of all sorts, but within a few hours microbes take up their residence in it never to abandon it. Their favorite habitation in the skin is the capillary follicles—deep sheaths suited to the formation of hair. The mucous membranes are inhabited also, though that of the eye, constantly washed with tears, is comparatively free. The digestive organs contain them in the greatest abundance. Thirty species inhabit the mouth, about thirty species the stomach, many species the small and some forty-five species the greater intestine. About seventy separate and distinct species are ordinarily present in the whole body.

What are the functions of the microbes? The flora of the cavity of the mouth are useful in that they assist the healing of wounds. The acids secreted by certain bacteria in the small intestine protect it against the invasion of certain harmful microbes which prevent digestion. The spread of the germs of Asiatic cholera is often prevented by the action of hostile microbes which they encounter in the intestines. In general, however, the effect of the microbian colonies is harmful, not helpful. Headaches, exhaustion, neurasthenia, dyspeptic asthma, certain forms of epilepsy, etc., are probably due to poisons originated by the microbes of the digestive system. And whenever the normal forces of the body flag, the increase in the number of microbes results in serious harm.

The Place of Artificially Caused Hyperemia in Medicine.

Bier, at the recent meeting of the Nineteenth German Congress for Internal Medicine (reported in the *Philadelphia Medical Journal*, May 25, 1901), read a paper under this title. Bier has found his

method, the causing of venous congestion by placing a rubber bandage around the limb, which he originally proposed for the treatment of tuberculous arthritis, of no value in cases of carcinoma, sarcoma, or lues; he has been successful, however, in cases of arthritis following gonorrhea. He finds that it shortens the course of erysipelas, and that it aids in bringing a beginning phlegmon to resorption. He emphasized that one must use only the "hot congestion;" "cold congestion," when the bandage is drawn too tight, or "white," or "lymph congestion," is directly injurious. The advantages of the method are: If used rightly it quiets pain—otherwise it is contraindicated—and aids in the resorption of pathological growths and exudates. This latter can best be obtained by combining hyperemia with massage.

Bier reported a series of experiments made by Noetzl to ascertain whether the hyperemia has any direct effect on bacteria. Fifty-one of sixty-seven animals lived after injection into the congested limbs of doses of anthrax which are ordinarily certainly fatal. Bier described further the use of hot air, and showed a simple apparatus long used by himself for applying the heated air. In spite of the discussion as to the value of hot air, Bier believes that it exerts an influence upon the deep-lying blood-vessels. He recommends the method to the practitioner, especially in the treatment of rheumatism.

Muller, of Würzburg, described the changes in the blood following artificial hyperemia. He claims that the red blood-corpuscles increase in number.

Amount of Iron in Human Milk.

Friedjung, at a recent meeting of the Vienna "Gesellschaft der Aertze," read an exhaustive paper containing the results of his examination of the milk of twenty-one females during the period of lactation. He finds that healthy females have a small but constant quantity of iron in the secretion varying in amount from 3.52 to 7.21 milligrammes in a liter of milk, the average being 5.09 milligrammes. The better the condition and feeding of the mother the greater the amount of iron present. The reduction of the iron in the secretion is not gradual, but sinks rapidly at the end. The average in seven females during the first month was 5.8, the average of five during the second month was 5.25, of four during the third month 4.92, of two during the fourth month 5.33, and of one during the tenth month 3.64 milligrammes per liter. The number of births as well as the menstruations have no effect on the quantity of iron present; neither has the specific gravity any influence, as a milk of 1029 specific gravity gave 7.21 milligrammes, while one of 1033 gave only 3.92 milligrammes of iron.

Unhealthy surroundings, age, and chronic disease are all important in reducing the quantity of iron. Females suffering from syphilis or heart disease have usually a low quantity of iron, varying from 3.4 to 3 92 milligrammes.

The author also finds that the milk of healthy mothers with a low quantity of iron causes indigestion, malassimilation, and general disturbance in the offspring. Artificial foods he condemns as quite unfit for feeding, as the best milk preparation he has examined contained only 2.58 milligrammes of iron, which is lower than the worst female milk examined.

Serum Diagnosis of Tuberculosis.

Romberg (*Deut. Med. Woch.*, Nos. 18 and 19, 1901), after an exhaustive investigation of Behring's emulsion of tubercle bacilli in the serum diagnosis of tuberculosis, concludes that the emulsion is agglutinated by the serum of tubercular patients, the same as with Arloing and Courmont's homologous culture of living bacilli. To the question of the agglutination being a useful aid for the diagnosis of tuberculosis, the author cannot give a satisfactory answer; but he has obtained some results bearing on the subject. The blood from the placental portion of the umbilical cord of new-born infants who probably were free from tuberculosis did not produce agglutination. In persons over eighteen years of age, in whom were no clinical signs of tuberculosis, 56.4 per cent possessed the agglutinating power. Of the persons with evident signs of tuberculosis, 81.4 per cent agglutinated; those which did not were severe cases of phthisis, and those in which the lesions had healed. It seems therefore that the serum reaction is of no value in the early diagnosis of tuberculosis, being positive in persons with no clinical evidences of tuberculosis, and fails sometimes where the clinical diagnosis is certain. Romberg considers the positive result as a certain evidence of the presence of a progressive, or at least not an inactive, tubercular process; while the negative result points to entire freedom from tuberculosis, or to the healing of an existing tubercular process, or to a very advanced condition of the disease. Although his material is too small (ninety-five cases) for him to make any positive assertions, still he believes this serum diagnosis of value in determining a latent tubercular process.

Curious Phenomena Seen in Typhoid Fever.

Baccarani (*La Rif. Med.*, Feb. 23, 24, 1901; *British Medical Journal*, May 25, 1901), describing some more or less unusual symptoms noticed by him in typhoid, mentions the pulsus paradoxus which was

observed in one case during the fever and in convalescence. It was not regularly present, and was apparently due to myocardial weakness. In the same was also observed the splenic cough—that is, paroxysmal cough—induced whenever the enlarged spleen was handled; when the spleen returned to its normal size this phenomenon could not be excited. In another case sciatorrhea was a marked symptom. The diazo-reaction was negative, although very marked in the urine. Nothing abnormal could be detected in the salivary gland. In the same patient slight balanitis and ureteritis were also observed; no gonococci were present. In two cases moderate desquamation, chiefly confined to the abdomen and thorax, was noticed. A dystrophic pruritus was present on the fifteenth day in another case.

With regard to treatment, the author speaks well of the practice of giving small water enemata every day in the constipation of early convalescence after typhoid. The palmo-plantar sign first described by Filipovicz in 1897, and consisting in a yellow discoloration of the palms of the hands and feet, was noticed in all the cases. It appeared to have no relation to the gravity of the attack. The common time of occurrence is on the fifteenth day.

PATHOLOGY AND BACTERIOLOGY.

UNDER THE DIRECTION OF THADDEUS WALKER, M.D.,
Microscopist to Harper Hospital, Detroit.

The Morphology of Bacteria and its Relation to Virulence.

Ascoli (*Deut. Med. Woch.*, No. 20, 1901) discusses the significance of the Babes-Ernst granules and the granulations of various kinds found in bacteria, which many investigators, especially lately, have thought to be nuclear bodies, condensations, beginning spore formations, hypochromatic substances, etc., and says that an actual demonstration that these bodies in bacteria contain nuclei has not been successful. All theories and observations so far made public are unsatisfactory and do not permit us to draw any definite conclusions. These various granulations have been considered homologous notwithstanding there seems to be a chemical difference and their biological condition is in doubt, though it is probable that they indicate the termination of the vegetable state and are concerned in sporulation. No positive conclusions exist regarding the relationship of the granules to vitality or virulence.

THERAPEUTICS.

The Treatment of Diphtheria with Antitoxin.

Dr. Burrows (*Quarterly Medical Journal*, May, 1901) states that during the four years immediately prior to the introduction of antitoxin, 6473 cases of diphtheria were treated in the large hospitals of Berlin, Paris, and Boston, of whom 3117 died, or about forty five per cent. After the antitoxin treatment was commenced the mortality was at once reduced. During the year from August, 1899, to August, 1900, Dr. Burrows had charge of the diphtheria wards in the Boston City Hospital, and there were treated 2093 cases of undoubted diphtheria; 1962 of these were uncomplicated, and 240, or 12.23 per cent, died; 1647 of the patients were under fifteen, and amongst these the mortality was 14 per cent, whilst of the 315 who were over fifteen the mortality was only 2.85 per cent. One interesting point is brought out by the author, namely, that the free use of antitoxin very materially lessens the liability to albuminuria, less than one-third of the cases from whom specimens could be obtained having any albumin in the urine. (Out of 1757 cases, the urine of 1256 was always free from albumin.) Out of the 131 cases of mixed infection, no fewer than 41 died. With regard to the quantity of antitoxin given, the rule which the writer followed was to give an initial dose of 4000 units, and to repeat this every four hours as long as might be necessary. In 321 cases only a single dose was needed, and in some exceptionally severe and late cases he gave 4000 units every two hours, and in others 8000 every four hours, but in the majority he adhered to the above rule. Alcohol was used freely and frequently.

Treatment of Pneumonia.

At a recent meeting of the Paris Société de Chirurgie (*Medical Press*, May 15, 1901) Dr. Bony took for his thesis the old but ever-present question of the treatment of pneumonia. It is well admitted that in reality there exists no specific treatment for the disease, but according to Dr. Bony, hydrotherapy is one of the means at our disposal for sustaining the strength of the patient. The idea is not so much to lower the temperature as to regulate the functions of the nervous system, to exercise vigorous revulsion, to facilitate the peripheric circulation, to lighten, so to speak, the burden on the heart and the lungs, to stimulate the secretions, and to contribute to the elimination of the toxins.

Wrapping in the wet sheet is the method he recommends, particu-

larly in the congestive forms with intense functional symptoms and high fever, as well as in the adynamic form with cardiac and nervous asthenia. Without having an absolute action on the cycle of pneumonia, the wet sheet seems to act favorably on the last stage of the malady, rendering the crisis less brusque, the reaction less brutal, sparing the strength of the patient for the period of convalescence. Naturally, tonic medication would be also prescribed, such as caffeine, digitalis, injections of serum, camphorated oil, alcoholic drinks in moderate proportion, etc.

Treatment of Gout with Quinic Acid.

Salfeld (*Münch Med. Woch.*, April 16, 1901) reports the results of several cases of gout treated by a combination of quinic acid and piperazin, which has been placed on the market under the name sidonal. It seems to be of great therapeutic value and possibly an aid in differential diagnosis between articular rheumatism and genuine gout. Quinic acid has for some time been known to have the power of dissolving and transforming uric acid deposits in true gout so that they are eliminated, but the above combination Salfeld believes to be the best remedy for gout, especially as the restriction of the diet need not be so severe.

PEDIATRICS.

UNDER THE DIRECTION OF CHARLES G. JENNINGS, M.D.,
Professor of Practice of Medicine and Clinical Diseases of Children, Detroit College of Medicine.

Infantile Croup with Unusual Temperature Range.

La Fetra (*Medical News*, No. 1457, 1901) reports in detail a case of croup, of which the following were the most important features:

1. On the sixth and tenth days the temperature fell below 95°, showing profound infection.

2. The temperature showed wide excursions; on one occasion the fall amounted to 10½°.

3. Recovery could be attributed to change of air alone.

4. There was evidence that the germ of influenza had persisted in the house for months despite sulphur fumigation.

The age of the child was about fourteen months.

Start the Babies Right.

F. M. Crandall (*International Medical Magazine*, April, 1901) says that the problem of artificial feeding is one which is growing in impor-

tance as time goes on. An attack of indigestion in a very young child is always a serious matter, for it may be very difficult to restore the normal equilibrium. An intestinal catarrh is especially difficult to cure. Prevention is better than cure. The author recommends that during the first two weeks the food mixture should not be too strong, not greater in fact than 2 per cent of fat, 6 per cent of sugar, and .6 per cent of proteid. Thus, to make 12 ounces we should require top-milk, 2 ounces; lime water, ¾ ounce; water, 9¼ ounces; and milk-sugar, 1½ even tablespoonfuls.

OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,
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On the Local Treatment of Glaucoma.

Dr. Prof. Wicherkiewicz (*Potemp Okulistyczny*, No. 2, 1901 (Polish); *Die Ophthal. Klinik*, No. 8, 1901) highly recommends the following mixture in cases of acute as well as chronic glaucoma:

℞ Eserine salicylate	0.01
Pilocarpini muriat	0.20
Cocaini muriat	0.05–0.10
Aq. destillati	10.00

The mydriatic action of the cocaine is neutralized in this combination through the eserine and pilocarpine; and the intra-ocular tension is diminished through the use of this collyrium.

In fresh and acute cases the solution should be dropped into the eyes three times daily.

In chronic glaucoma, where iridectomies and sclerotomies had no effect in stopping the progress of the disease, the author has seen marked improvement in vision as well as in the structures of the eye following the use of these eye-drops once daily at bedtime.

Heterophoria.

J. E. Colburn (*Clinical Review*, June, 1901) has, from his study and experience of many cases of heterophoria and muscular asthenopia, drawn the following conclusions:

1. Troublesome local and general disturbances may result from imbalance of the ocular muscles.

2. Heterophoria may be one of many causes acting upon the patient, and the removal of one cause of irritation may lessen but not prevent the recurrence of symptoms.

3. The correction of the heterophoria may be quickly or slowly followed by a cessation of the symptoms. In this respect the results are always modified by the personal equation of the patient.

4. All the other remediable sources of irritation should be cured or removed before attempting the correction of the heterophoria.

5. The study and treatment of muscular imbalance is one of the most difficult problems in practical ophthalmology, and we cannot be too careful and guarded in prognosis and treatment.

6. Local anesthesia should be employed, cocaine five-per-cent solution, or holocaine two-per-cent, two drops every three minutes until the conjunctiva is not sensitive to touch; then two drops of 1:10,000 solution of adrenalin chloride (P., D. & Co.) to blanch the tissues and prevent bleeding during the operation.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Lecturer on Dermatology, Detroit College of Medicine.

Multiple Nodular Melanosarcoma of the Skin from a Nevus.

In the *Journal of Cutaneous and Genito-Urinary Diseases* for June, 1901, A. Ravogli, of Cincinnati, reports the following case:

"The patient is a lady, thirty-three years of age, whose parents are both living; the father is eighty years old and the mother sixty-nine; both have enjoyed splendid health. The lady affected with this disease is a woman of splendid physique, good clear complexion, brown chestnut hair, and brown iris. She has been married for seven years, has two healthy children, and while inquiring about her previous health she said that she never remembers having been sick a day in her life.

"Since her birth she has had a dark, pigmented nevus the size of a twenty-five-cent piece in the center of the lowest part of the sternal region, which from her description seems to have been a form of nevus verrucosus. This nevus had always remained there without causing her any trouble. At the age of thirty-one, two years ago, when pregnant with her second child, the nevus began to grow somewhat, and she began to feel the place tender. Gradually it ulcerated in the middle and bled at times. Six months later several black round spots began to appear around the original nevus, increasing the size of the first. At this time she consulted a physician, who advised her to have the whole spot removed. In June, 1900, the operation was performed, leaving a raw surface, which took a long time to cicatrize, and which

is still very tender and painful to contact. Two months later small dark-brown nodules the size of a pin-head began to develop around the cicatrix of the original nevus, and in a few months successive eruptions of black nodules kept coming, partly coalescing.

"The young nodules are soft, elastic, and shiny, rather consistent, the size of a pin-head, of dark-brown color; they gradually grow to the size of a hempseed or larger, assuming a black color, then gradually fade, and the black epidermis is somewhat wrinkled, remaining this way, and permanently grouping themselves with the others constituting the black spot. So far there is no swelling, no tendency to ulceration. The subjective symptoms consist in a disagreeable, painful, itching sensation, which she claims cannot be stopped, and the patient says it makes her nervous. This sensation prevents her from sleeping, and causes her to lose her *embonpoint* somewhat.

"There is no doubt that the affection is a growth developed from the nevus."

Goose Grease as an Excipient in the Treatment of Ringworm.

Dr. Jackson (*Journal of Cutaneous and Genito-Urinary Diseases*, June, 1901) has had experience in the treatment of ringworm of all kinds. For this purpose he uses the crystals of iodine, one-half to one drachm, rubbed up in goose grease, one ounce, and directs that the ointment be thoroughly worked into the patches by means of a stencil or stiff paint brush. His success has been especially marked in curing ringworm of the beard. "Under the microscope hairs show staining with the iodine down to the bottom of their roots. On the scalp of a child it does not seem to be very irritating, and the patches get well."

"The greatest difficulty in the way of using goose grease is in getting it. The best quality of the article is very expensive, as it is made from the fat taken from a dead but uncooked goose, which spoils it for cooking, and so a few ounces of fat costs as much as the whole goose. . . . Some perfume may be added to make it pleasant to use."

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

The Age of First Menstruation in the United States.

Dr. G. I. Englemann, at the recent meeting of the American Gynecological Society (*American Medicine*, June 8, 1901), read a paper under this title. The writer said that over 10,000 observations as to

the time of first menstruation of American-born women, many with reference to points never before investigated, here or elsewhere, give him ample material for an authoritative solution of the questions involved. These observations, from his own practice and that of helpful friends, are many, and the identity of results obtained in far-distant points—Montreal and New Orleans, Cincinnati, St. Louis, and Boston—vouches for their correctness; furthermore, they are corroborated by all previous records—a total of 6000 in such points as these may cover. The mean age of first menstruation in this country is 13.9, or 14 years, the same in the United States and Canada. Climatic differences in no wise influence pubertal development within the bounds of the North American continent; the American-born, be they of American (14.1), German (14.5), Irish (14.5), or French (13.6) parentage of the same class, attain puberty at the same age in Montreal, St. Louis, or Boston; the negro does not vary (14.05) whether in New Orleans or St. Louis. The greatest variation caused by the extremes of all influences is one year, from 13.5 in the girl of highest refinement and education to 14.5, which is the period for the American-born of the laboring classes of German and Irish parentage; in other countries the difference between the extremes of social classes is from two to three years. Refinement, education, city life, nerve stimulation, determine precocious puberty; ignorance, poverty, and manual labor retard; social status in itself means very little; heredity and race have a slight determining influence. The American-born are more precocious than the women of other countries in the same zone; 14 is the age of puberty in the United States and Canada, 15.5 in the temperate zone of Europe. The native American is more precocious than the American-born of foreign parents, but the latter closely approximates the American of American parentage, even in the first generation. Racial characteristics fade rapidly away. The age of puberty in Germany is 15.5 to 16, in Ireland 15.3, and for the girl born in America of German or Irish parentage 14.5, in St. Louis as it is in Montreal. The Canadian-French are the only exception, between 14 and 15 in their native land; these alone of all races are more precocious than the American of the same class when born in this country; 13.7 is the mean age. Climate here has absolutely no influence; race, mentality, surroundings, education, and nerve stimulation stand out prominently in this country as the factors which determine precocity.

The Rôle of the Infections in Diseases of Women.

The epithelial surface of the genital tract in its integrity is, according to C. A. L. Reed (*St. Paul Medical Journal*, June, 1901), an

efficient barrier against invasion of the underlying structures by pathogenic microorganisms that establish parasitic and saprophytic relations to the vagina.

The normal cervix and its contained secretions are adequate barriers against invasion of the uterus by pathogenic bacteria that are capable of maintaining a habitat in the vagina.

The vagina possesses certain powers of self-disinfection which work only against the organisms that are at once true parasites and facultative aerobes.

Certain pathogenic bacteria, notably the gonococcus of Neisser, the Klebs-Loeffler bacillus, and the oidium albicans, find in the warmth and moisture of the genital epithelium conditions favorable to their propagation and to the increase of their virulence whereby the epithelium itself may be destroyed, to the extent of losing its protective properties.

Pathogenic bacteria innocuously present in the genital tract may become virulent when introduced into the underlying structure through a breach in the protective epithelium.

Pathogenic bacteria when introduced into previously normal tissues immediately provoke the process called inflammation, the essential phenomenon of which is the speedy deposit and rapid extra-vascular migration of the leucocytes, which act as phagocytes in preventing the further invasion of the system.

Pathogenic bacteria that are not thus overcome by the leucocytes may enter either the lymphatic or the sanguiniferous circulation, producing secondary phenomena, septicemia, pyemia, and even the death of the patient.

NEUROLOGY.

UNDER THE DIRECTION OF CHARLES W. HITCHCOCK, M.D., DETROIT, MICH.,
Attending Neurologist to Harper Hospital.

The Pathology of the So-called Functional Neuroses.

In the January, 1901, number of the *American Journal of Insanity*, Klingmann, pathologist to the Michigan Asylum, offers a contribution to the study of the pathology of these neuroses. He cites the growing belief that many, if not most, tissue changes are brought about by toxic agents of one kind and another. Following this general belief the author has experimented on some of the lower forms of life, finding the *Spirogyra majuscula* particularly well suited to the study of intracellular changes. Pure, clean copper foil, allowed to remain from twelve to twenty-four hours in distilled water, afforded a solution sufficiently

toxic to soon produce the death of the organism. Other metals—gold, silver, tin, lead, and mercury—were used, and the cell changes studied as they occurred under a No. 7 Leitz objective.

An interesting series of experiments were also conducted with some of the algæ and protozoa, in which serum obtained from the blood of patients suffering from so-called functional nervous and mental troubles was used as the toxic agent.

Pathological conditions in the ganglion cells of guinea-pigs and rabbits, after injection of the toxic serum, were also demonstrated. Especially when toxic states are engrafted upon a neurotic heredity may pronounced tissue changes be naturally looked for, and it will not be surprising if it shall soon be conclusively demonstrated that permanent structural changes early ensue upon toxic influences, especially in those burdened with a neurotic heredity.

The experiments already made are significant as confirming what has long been suspected, that the term "functional neurosis" has been only a cover for our ignorance of the real condition, and that it really is a misnomer. It is only another confirmation of the steady lessening of the alleged functional neuroses and a proportionate increase in our knowledge of the disease which we are coming to recognize as essentially organic.

Hallucinations.

Dr. Alfred McCorn (*American Journal of Insanity*, January, 1901) gives the following summary of conclusions to an article on this subject:

"Hallucinations are not new creations; they are composed either of present or of latent memory—pictures or ideas—and are accordingly designated concomitant or spontaneous respectively. They are not due to an external stimulus, but to one within the sense-organ itself, one acting on its sensory tract or the sensation cells of the brain cortex. Hallucinations may affect any or several of the senses simultaneously, and influence thought and action according to their contents and the importance ascribed to them by the patient. They may be due to toxic conditions, whether caused by drugs or infectious diseases, disorders of nutrition, the effects of extreme heat or cold, and often accompanying the functional neuroses. They are particularly common in paranoia and dementia in their various forms, but occur more rarely in the effective psychoses."

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ORIGINAL CONTRIBUTIONS.

GASTROINTESTINAL AUTOINTOXICATION.

BY W. L. BIERRING, M.D., IOWA CITY, IA.

Autointoxication in its strictest sense refers to a toxemic state, due to an endogenous source or cause peculiar to the organism itself. If I widen its scope somewhat, it is because that particular form of which this paper treats traces the toxic agent to the gastrointestinal tract, and in this case may be of endogenous kind, or have its remote source in the external world.

While principally a study of the last decade, it has rapidly been accorded a prominent place in the etiology of disease; though a subject of widest range, definite knowledge is still lacking in many directions, which is mainly attributable to the inability of separating the various products of metabolism; again to the unreliability of animal experimentation, since the lower animal shows a susceptibility of unusual degree; and finally, the failure to detect the toxic agents in the channels of elimination necessarily prevents accurate determination.

The process in question is preeminently due to absorption of poisons from the gastrointestinal tract, and so a tentative classification with reference to their further source is proposed as follows:

1. Derived from cell life: (*a*) Repair of cells; (*b*) secretion of cells.

2. Normal and abnormal digestive processes.

3. Toxemia as a result of the entrance of pathogenic microorganisms.

4. Poisons introduced into the gastrointestinal tract.

That toxic substances are formed in intermediate metabolism, as concerned in cell secretion and repair, is now confirmed by clinical observation.

It is generally conceded that the product of normal digestion, when formed and absorbed in abnormal amounts, leads to autointoxication. The study of fermentative changes in the nutritive foodstuffs, especially the albumens, reveals numerous toxic substances, and not only in artificial nitrogenous decomposition, but also in the alimentary tract of healthy and diseased states, toxic putrefactive alkaloids have been isolated in such quantities that the fermentation of food forms a source of autointoxication. Of the various substances formed in normal and abnormal fermentative changes of both albumens and carbohydrates, but very few have been definitely associated with autointoxication.

To definitely establish the relation between the gastrointestinal autointoxication and pathologic processes the following essentials are necessary: First, the formation of the poisons in the alimentary tract; secondly, their absorption by the tissues; and thirdly, their elimination by the kidneys and other excretory channels.

In the familiar examples of fish and meat poisonings the causative agent is evidently a ptomaine or putrefactive alkaloid, yet the demonstration of the crucial factors just mentioned is a matter of great difficulty.

The intestinal tract, by reason of many favorable conditions, is the normal habitat of microorganisms, both saprophytic and parasitic, some existing as saprophytes in the canal, but manifesting pathogenic properties when introduced into the tissues. Of the latter class the colon bacilius is a representative, which also constitutes by far the principal microbic agent in the alimentary tract; in addition to this the bacillus pyocyaneus, staphylococcus pyogenes, and other pathogenic organisms are also demonstrable.

In considering a toxemia due to pathogenic microorganisms, it is necessary to assume that microbic agents and their toxic products enter the tissues.

In such processes as typhoid, cholera, tuberculosis, and dysentery, the entry of toxic substances is greatly facilitated by the attending anatomical changes in the mucous lining; but recent researches tend to show that the entrance of bacteria and accompanying toxins takes place without any such previous local change.

One of the basal postulates in bacteriologic knowledge, especially in its application to medicine and surgery, has been that in health the organism is free from bacteria, that the tissues are sterile, and that infection is due to the abnormal passage of bacteria into the tissues.

We assume that the skin and mucous surface form the natural barrier beyond which bacteria do not pass, and the presence of bacteria in the deeper tissues is therefore regarded as an exception and not the rule. From recent observations we are forced to acknowledge that entrance occurs through an apparently intact surface, and occasionally in healthy states bacteria are met with in the tissues and circulation.

As early as 1882 Schafer[1] noted that leucocytes possessed the power of carrying fat globules into the lymphatics. A. B. MacCallum[2] has more recently shown that the absorption of iron into the economy takes place in a similar way: There seems no doubt that under certain conditions leucocytes constantly pass out on to the free surface of the intestine and back again, and while taking up various food elements they are likewise able to take up bacteria and carry them to the nearest lymph node. Evidence of this is also noted in connection with the tonsils, pharyngeal lymph follicles, and lymph nodes of the respiratory tract.

From the lymph nodes a passage occurs into the mesenteric vessels. Adami,[3] in his researches on the colon bacillus, has gone one step further, and demonstrated the passage to the venous channels in the liver, from which an entry into the general circulation readily takes place; evidenced again by the rapid elimination of the colon bacillus by means of the bile.

That bacteria exist in the circulation of healthy individuals has also very recently been conclusively demonstrated by Ford.[4] My reason for associating these researches in connection with more strictly exogenous causes is that they afford a certain explanation for entry of endogenous poisons into the tissues.

The significance of all these observations illustrates that the proximity of the intestine with its contents is a source of danger even in the healthy state, and especially when some sudden or long-standing depressing influence serves to facilitate entrance into the tissues, and dissemination throughout the system.

There is a reason why the surgeon should dislike to operate on cases in which chronic constipation has existed for some time. Operative interference gives rise to some peculiar forms of surgical infection; it is a matter of hospital experience that frequently those cases that want an operation performed, so to say, over Sunday, receiving less preliminary preparation by reason of limited time, are more often followed by serious consequences than those cases which have had proper attention in the way of purging, bowel flushing, etc.; in fact, surgeons state that some of their best operative cases are those that are weak, bedridden, and have been on a restricted diet for some time.

In still another way this absorption manifests itself, as in con-

ditions of lowered vitality due to some chronic disease process, permitting entrance of bacteria and toxins, which disseminate and become localized in distant tissues, often in the excretory channels, producing changes or processes very different from the original disturbance, illustrating the so-called terminal infections of Flexner,[4] and also the well known remark of Osler that "persons rarely die of the disease with which they suffer."

Of the intoxications due to poisons introduced into the gastrointestinal canal, the one of greatest clinical interest is that due to so-called milk infection. In this connection a most interesting contribution was offered by Somenberger[5] at the last German Congress of Internal Medicine on the etiology of gastroenteritis, especially cholera nostras. He calls attention to the fact that milk must be regarded both as a secretion and as an excretion.

While the clinical picture of cholera infantum is principally that of gastroenteritis, the convulsions and other nervous symptoms point to systemic intoxication, and this is caused by the presence in the milk of alkaloids derived from weeds in the fodder of the animal, and the only effective prophylactic suggested is to exercise care in keeping the fodder free from weeds.

The clinical signs of gastrointestinal autointoxication are manifold, and received their first proper classification by Albu,[6] who referred to changes in the following organs and systems:

1. Skin: (*a*) Color changes, anemia, icterus, bronzing; (*b*) exanthemata, erythema, urticaria, dermatitis.

2. Muscles: Polymyositis.

3. Intestinal tract: Anorexia, nausea, vomiting, diarrhea, constipation.

4. Urinary tract: Albuminuria, hematuria, hemoglobinuria, acetonuria, oxaluria.

5. Central nervous system: Headache, vertigo, syncope, insomnia, stupor, coma; delirium, partial or general convulsions, paralysis, psychoses.

Through the involvement of the central nervous system the following may be added: (*a*) Disturbance in the heart's action; (*b*) disturbance in respiration; (*c*) disturbance in control of body temperature.

6. Disturbances in general nutrition and metabolism: Blood anomalies, cachexia, diabetes, uric acid diathesis.

Albu regards the vasomotors of the skin as the special point of attack for the autotoxins. The well known effect of exogenous poisons, different medicinal substances that are ingested and in connection with the various infections, makes the dermatosis idea very plausible in connection with autointoxication, manifesting

itself as it does principally in the form of urticaria, and diffuse exanthemata.

Exact proof of the connection, though, is still lacking, the best argument still being the disappearance of the dermatosis with the removal of the gastrointestinal disturbance.

The clinical disease picture is rarely lacking in manifestations of disturbances from the gastrointestinal tract, while occasionally they may be quite in the background; again, they completely overshadow the symptoms, and only concomitant signs from other organs furnish the evidence that the pathologic condition is more than a simple anatomical lesion of the gastrointestinal tract.

For the present the rapid disappearance of disease changes in direct connection with the mechanical removal of gastric and intestinal contents, the source of the poison, is the only point in favor of autointoxication.

With the vasomotors in the skin, the nerve centers in the medulla likewise hold an equal place as a special point of attack, and in recent years the number of nervous affections due to gastrointestinal intoxication has gradually increased.

Modern research, with reference to the effect of bacterial poisons, as those of tetanus, diphtheria, and colitis, on the central nervous system, has greatly enhanced our knowledge on the subject; the introduction of Nissl staining methods has permitted demonstration of anatomic changes in nerve cells as a basis of nerve disturbances, heretofore regarded as functional.

There is evidence that the systemic fibers in the spinal cord may also be separately involved; and the study of lead, arsenic, and diphtheria intoxication furnishes evidence that the peripheral nervous system may be the special point of attack. According to Christians[8] the poisons of intermediate metabolism, and those derived from digestive processes, can also be productive of lesions in the nervous system.

In this connection Henoch and Boas[9] call attention to the fact that persons affected with heart lesions or emphysema have increased respiratory difficulty after each meal and during digestion, and also describe cases of acute dyspnea following or accompanying dietary errors, constipation, or gastric intestinal catarrh, characterized by superficial breathing, cyanosis, rapid, small pulse, cold extremities, subnormal temperature, and called the same—asthma dyspepticum. Chlorosis and pernicious anemia, with other serious disturbances in the blood and general metabolism, are being placed in the category of gastrointestinal intoxication.

While modern research has developed the many sources of danger for the economy that lurk in the gastrointestinal tract, it

has likewise brought into prominent light the many means of defense that the organism offers against attack from this direction. Many bacterial toxins meet their fate in the tract itself. Behring and Ransom[10] have shown that tetanus toxin does not penetrate the mucous membrane; according to Nencki[11] the pancreatic juice destroys tetanus toxin, and pancreatic juice and bile are destructive to diphtheria toxin. Calmette[12] demonstrated that snake venom is absorbed by the gastrointestinal tract, but destroyed by the bile.

It is further shown that poisonous albumoses and peptones become harmless as they reach the blood, being converted into innocent albumens.

The presence of toxins in bile, urine, and sweat illustrates the cooperative influence of the excretions; the import of sweat in crises and reactions is very frequently not properly recognized.

The presence and arrest of bacteria in the lymphatic tissues in states of apparent health indicate their defensive role, and there is ample evidence that they are taken up by the lymphatic nodes and there destroyed.

In the notable work of Adami on the colon bacillus it is observed that the bacillus is altered in form, becomes diplococcoid in character, and loses much of its pathogenic power as it reaches the hepatic circulation.

Probably the most important function of the liver is to act as a guard or barrier to the entrance of poisons, present or formed in the digestive tract, into the general circulation. When this defensive function becomes impaired we can with propriety speak of hepatic insufficiency, and, in fact, many of the clinical signs of gastrointestinal intoxication are but manifestations of hepatic inadequacy.

It is important to note that the hepatic cell is often so injured by poison or acute disease that after recovery a more or less permanent condition of hepatic insufficiency may result, as in malaria. The term biliousness found its place in those states where the power of the liver as a sentinel is lessened.

There is a tendency to regard the formation of connective tissue, as seen in cirrhosis of liver and kidney, as an evidence of protective influence against chronic irritation. Progressive pernicious anemia with its serious disturbances in metabolism offers the picture of gradual limitation of the protective function of the hepatic cell, and the results of its inadequacy.

In the therapy of gastrointestinal intoxication there is now a unity of opinion as to what may be accomplished by medicinal disinfection of the gastrointestinal tract; there is a general conviction that a thorough removal of contents from stomach and

intestines is still the most effective treatment; and the hope that the use of antiseptics would diminish the putrefactive changes in the tract, that the toxic properties of feces would be reduced, and the manifestations of autointoxication be removed has not as a rule been realized.

The good properties of calomel must be attributed more to its power as a laxative than to any antiseptic property.

Great value is laid on the method of the French school, headed by Gilbert,[13] who accredits great virtue to an exclusive milk diet, claiming that bacteria are less in number, putrefactive changes are lessened, and a more or less incomplete state of intestinal asepsis is then produced. It is possible, though, that the attending diuresis may also be an important factor in this connection.

In the light of present pathologic knowledge we must certainly concede that our colleague of the saddle-bags reasoned in a way most suggestively modern, and his physic and calomel were not so much out of place as we have often been led to believe.

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A BRIEF REPORT OF SOME INTERESTING SURGICAL CASES.*

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OVARIAN CYSTOMA.

Case 1.—Eighteen years ago a lady patient of mine had a tumor that I presume weighed, from the description, over fifty pounds and contained five or six gallons of liquid. Everybody expected the woman to die. She would not be operated upon. Finally she began to improve, and in a few days the

*Delivered before the Louisville Clinical Society.

tumor had disappeared; but during this time she passed from two to three gallons of urine daily. It was looked upon as a miraculous disappearance of the tumor. However, in a year the tumor reappeared and continued to enlarge, and fifteen years after its disappearance I operated upon the patient, removing a tumor containing about six gallons of liquid, a parovarian cyst, with no adhesions, unilocular, pedicle not larger than my finger, the liquid nearly transparent, and the cyst wall very thin.

The disappearance of the first tumor was the result of a rupture of a thin-walled cyst; the contents, being bland and unirritating, was immediately absorbed by the peritoneum into the tissues of the body and eliminated mainly through the kidneys; but the opening in the cyst wall closed, and the tumor refilled and did not again rupture.

It is astonishing how much fluid can be eliminated by the kidneys, and how much liquid will be absorbed by the peritoneum under favorable conditions. You can fill the peritoneal cavity with salt solution, and it will be rapidly absorbed into the blood, filling the vessels, and be eliminated also through the kidneys.

UTERINE MYOMA.

Case 2.—Here is a uterine myoma removed recently from a woman about forty years of age, who was suffering with local symptoms that demanded relief. It was removed by the combined vaginoabdominal method, first dividing the vagina, separating the bladder, opening the peritoneal cavity, closing off the uterine arteries, and cutting one and a half inches of the lower part of the broad ligaments.

When the abdomen was opened the tumor was so fixed in the pelvic cavity that it could not be pulled up over one-half inch, so I applied long clamps down as deep as I could upon the broad ligament upon each side and bisected the uterus into two parts nearly equal in size, then divided the broad ligament, removed each side of the uterus, ligated the arteries, and sutured the peritoneal edges of the broad ligaments so as to cover all open connective tissue spaces.

The vaginal opening was not closed as I do it sometimes, but a strip of gauze about four inches wide was pressed into the vagina and then put down gently to the opening at the base of the pelvis. I did this because I get better drainage, and the patients so treated make better convalescence. I have observed this myself, and some time ago I asked the nurse, who had nursed many of my hysterectomy cases for myoma, if she could say which cases did the best—those where I had removed the tumor by the abdominal method, leaving the neck of the uterus; or by the vaginoabdominal

method, then closing the vault of the vagina; or by the vagino-abdominal method, leaving the vaginal vault open. She remarked that "when the vaginal vault was left open the patient never had any fever nor rapidity of pulse," showing that there can be no question as to the advantage gained by drainage through the vagina in these cases.

One part of the tumor, from its appearance, would seem to have degenerated into a sarcoma, and I will have a microscopical examination made. The line of demarcation distinguishing this part from the other parts of the tumor is perfectly defined.

APPENDICITIS.

Case 3.—Here is an appendix that is apparently but little diseased, though you see where adhesions were separated from it. This was removed yesterday morning from a man twenty-one years of age from Jackson, Miss., who has had for several years recurrent attacks of what was diagnosticated appendicitis, and he was exquisitely tender over the region of the appendix. Nothing could be detected in the examination to justify the belief that there was any involvement, but his physician, who came with him, and the patient himself, were so satisfied that the trouble was in the appendix that the operation was demanded.

When the abdomen was opened the omentum was found adherent to the appendix, and the appendix itself was three inches long. It was removed, and the man has had no trouble since. This case shows how little disease of the appendix may cause trouble. There were no adhesions of the bowel, simply the omentum, but he suffered more than cases upon whom I have operated where there were extensive adhesions. I have had in my pelvic work many cases where adhesion of the omentum to some pelvic and other structures has caused agonizing pain, and where I have only separated the omental adhesions, removing no structure, and the pain was entirely relieved.

CARCINOMA OF THE BREAST.

Case 4.—This carcinomatous breast, to which is attached a large portion of the pectoral muscles, was removed a few days ago from a woman fifty years of age and apparently in general good health. Until a month ago there was no ulceration, but in this time the growth had increased rapidly, and at the time of the operation there was a large ulcerated spot just below the nipple. The muscles were removed from the inner surface entirely extending out to the axilla. Before the operation you could hardly feel any enlarged glands by a careful examination in the axilla, but after the axilla was exposed and opened the large and numerous

glands that I show you, and some others that were lost, were enucleated, showing how large masses of glands may exist in the axillary space and be difficult to detect in stout women before the operation. The glands were removed up to the clavicle and the axillary space thoroughly cleaned out.

The duration of this growth had been about one and a half years. It is impossible to say with any degree of positiveness as to the prognosis of this case, but the probabilities are that the growth will return; be that as it may, the woman will be relieved of much suffering and sloughing of tissue, and her life will be prolonged.

You will observe that the skin was removed very wide so as to get beyond the possible range of malignancy, and the muscle was removed likewise so as to get rid of any malignant infiltration there.

I can see no possible use for leaving the glands in these cases, for they are nearly always involved, and the success of the operation depends upon the thoroughness of the operation. In a recent case I went up under the clavicle and enucleated glands in contact with the large vessels between the clavicle and upper rib. I have never had hemorrhage in enucleating these glands, and have never injured a nerve. In my experience in cases where there has been a return of the disease, it has recurred in fifty per cent of cases in other organs.

APPENDICITIS.

Case 5.—Here is a small appendix removed a week ago from a lady thirty years of age who had been suffering with pain in the region of the appendix for four or five years, never entirely at ease, and upon many occasions confined to her bed for several days to a week. She was unable to tell positively if she had an elevation of temperature at these times, and the doctor who brought her here had not attended her in any of the attacks.

In an examination no enlargement could be detected, but there was exquisite tenderness upon pressure over the region of the appendix. She came here for the operation and was determined that it should be done, so she taking the risk an exploration was made. When the appendix was reached it was found to be about one inch longer than normal, and in it was this concretion which could not be forced back into the bowel without destroying it, because the neck of the cavity of the appendix, like a bottle, was smaller than the balance of the lumen.

The appendix shows that she had what is known as a catarrhal appendicitis. There were no adhesions in this case, and the pain with which she had suffered was the result of the efforts of the

appendix to force from its cavity back into the bowel this concretion, which it could not succeed in doing; but finally its presence resulted in a catarrhal inflammation. Had this woman not been operated upon she would have had a severe attack of appendicitis, and perhaps gangrene of the structure. She has had no pain since the operation. The pain in this case might have resulted from two combined sources—the thickened and inflamed mucous membrane, and the peristaltic contractions of the appendix in efforts to force out this concretion—the intensity of the pain increasing each year because of the probable increase in the size of the concretion, and the increase in the disease of the lining mucous membrane. I could probably have mashed this concretion and forced it back into the bowel, but removal of the appendix did not add to the danger of the operation, and prevents the possibility of future trouble; and probably the inflammation, even had the concretion been gotten rid of, was sufficient to have finally resulted in acute appendicitis at some future time. Therefore it was deemed proper to remove the appendix.

PYOSALPINX AND OVARIAN ABSCESS.

Case 6.—Here are some specimens removed this morning from a married lady thirty years of age, the mother of two children, the youngest four years of age, who had no trouble in her pelvis until four years ago, since the birth of her last child. She then contracted gonorrhea, and has never been free of pain in the pelvis since.

I saw her for the first time at 8:30 yesterday morning, she having come to this city from Indiana. I found, on examination this morning, upon each side of the uterus, a mass larger than my fist. I first thought I would do a vaginal hysterectomy, but the room was dark, so I adopted the suprapubic route. There were no adhesions of the intestines to the pelvic structures, but there was on each side a cyst containing a straw-colored liquid, in all about a pint. On each side there was an obstructed pus tube, and on the right side an abscess within the ovary and a small intraligamentous cyst, a part of which I exhibit. The adhesions were so organized that you could scarcely tell where disease ceased and healthy tissue began, as you will observe by the specimens, making it a most difficult operation to complete. However, the pelvic cavity was not soiled with pus.

Here is one tube perfectly obstructed, with no appearance of the fimbriated extremity. The fimbriæ of the other tube may be seen where the adhesions have been separated; this tube was not more than one inch in length.

The adhesions were so extensive that when the diseased structures were removed the entire Douglas pouch was denuded, causing universal oozing, but no vessels were spurting. To prevent postoperative bleeding I applied gauze against the entire denuded surface with a Mikulicz tampon.

The patient has had no trouble since the operation. I will remove most of the gauze to-morrow.

MALIGNANT DEGENERATION OF AN OVARIAN ADENOMA.

Case 7.—This specimen is a malignant degeneration of an ovarian adenoma, which remained small for probably two years after it was diagnosticated a tumor, but had recently grown very rapidly, increasing several times its size within a few months. The general appearance of the patient and rapidity of growth of the tumor indicated the danger of malignancy, and in the operation this nature was revealed. The malignant portion of the growth was as large as one's head; there was a great quantity of liquid in the cyst. The cyst wall had become quite rotten, breaking down readily, but no external adhesions had formed.

MALIGNANT DEGENERATION OF AN INTRALIGAMENTARY CYSTOMA.

Case 8.—Here is another malignant degeneration of an intraligamentary cyst which had likewise grown rapidly within two months. In this case the same symptoms practically existed as in the first case, except the tumor was not so large and was not nodular. When the cyst was exposed the diagnosis of intraligamentary cyst was at once made. The capsule was perfectly smooth, and there was no evidence of malignant involvement. It was incised and stripped from the cyst wall proper, but when the capsule was half stripped off it was discovered that within the cyst there was a malignant growth as large as a child's head—an intracystic growth.

OVARIAN CYSTOMA ASSOCIATED WITH UTERINE FIBROID.

Case 9.—This specimen is an ovarian cystoma removed a few weeks ago with but few loculi and no adhesions. But associated with this cyst was this fibroid tumor within the walls of the uterus, not going quite down to the internal cavity. This was enucleated and the cavity united by suture. The woman made an uninterrupted recovery, and has a uterus that will enable her to bear children. While there are many myomatous tumors of the uterus that demand total hysterectomy, there are many cases where myomectomy may be substituted and the uterus protected, which should always be remembered.

INTRALIGAMENTARY CYSTOMA WITHOUT A PEDICLE.

Case 10.—Here is a tumor that had no pedicle, an intraligamentary cyst of small size. This woman had hemorrhage for a considerable time from the uterus resulting from adenomata, causing evidently the so-called villous projections within the cavity from which hemorrhage came. Bleeding had been considerable, so that she was decidedly anemic. The tumor was detected upon the left side. The tumor was deeply embedded in the folds of the broad ligament with a heavy capsule around it, which was incised and enucleated without rupture, preventing further development of what would have been a large and eventually a dangerous tumor difficult to remove. These tumors usually unfold the broad ligament layers and go deep in the pelvis, forming firm attachments to surrounding vital structures, causing enucleation to be difficult and dangerous.

HYSTERECTOMY.

Case 11.—Here is a specimen—uterus, and ovary of one side —removed recently, and here is another tumor that was with it. This is an intraligamentary myoma of the right broad ligament which was wedged in the pelvis, the uterus being almost absolutely immovable. When exposed I attempted to adopt the suggestion of Kelly and some others of first going down upon the opposite side, separating the uterus, controlling the bleeding vessels, dividing the uterus from below, and enucleating from below upward, so as to get the tumor out much more easily. After I had divided the broad ligament and gotten down nearly to its base approaching the uterine artery, I found it was impossible to work with any degree of satisfaction by that means, and that it would prolong the operation and probably cause considerable hemorrhage; so I immediately adopted the usual method, quickly incising the investing membrane, and in less than five minutes the tumor was removed. By having gone so far on the opposite side it necessitated removal of the uterus. Had I simply incised the capsule of this tumor at first I could have enucleated it without trouble, then stopped the hemorrhage by ligation with catgut if necessary, and the woman would have had the uterus and ovary of the other side, which were healthy, saved. In the future I shall be more careful to enucleate tumors in the broad ligament immediately, saving the uterus if possible, together with the ovary of the opposite side. I shall also enucleate myomatous tumors of the uterus by myomectomy wherever it can possibly be done.

INTRALIGAMENTARY CYSTOMA.

Case 12.—Here is a cyst wall of a small intraligamentary tumor recently removed, where the capsule was dissected off without rupture, and the tumor removed by enucleation. It was a small tumor and had not existed long; it looks almost like a parovarian tumor, but is a true intraligamentary tumor arising as we suppose in the hilum of the ovary, and had it not been removed might very soon have grown rapidly and have become attached to vital structures by nearly a continuity of union, which is so difficult to separate that in enucleation the bladder, bowels, ureters, or large vessels might have been torn, causing death.

CARCINOMA OF THE CERVIX.

Case 13.—This specimen is a uterus removed a week ago for carcinoma of the cervix, the carcinoma having been first curetted. The uterus, though now contracted, was twice or three times its normal size. The operation was one of great simplicity after bisecting the uterus, requiring but a few minutes for its performance. As I have frequently remarked in my reports of vaginal surgery for removal of the uterus, bisecting of the organ has done more to simplify vaginal hysterectomy than anything we have learned within ten years. It makes many operations comparatively simple that would otherwise be difficult. There is no capital operation more successful, if a man has experience, than removing a uterus after bisecting by this method, and bisecting can be done without much danger of wounding important structures without the necessity of using specula or retractors. I have not yet gotten my consent to remove cancerous uteri from above, where the uterus is not too large to be removed from below after bisecting. Of course, if the body of the uterus is very large from malignant disease, where I could not get it out from below, it would be necessary to go above. But in such cases the disease has usually extended so far that we cannot hope for permanent results by any operative procedure. The only argument in favor of suprapubic hysterectomy for malignant disease is that you can dissect out the pelvic glands that are infected. When it can be positively shown that the pelvic glands have become involved in the malignant process, you had better let the woman keep her uterus and do no radical operation, because the disease will as certainly return as you perform the operation. So I say the operation by the suprapubic method for the removal of infected glands is contraindicated, because the disease will invaribly return and you will not prolong the woman's life.

DISEASES OF THE UPPER RESPIRATORY TRACT AND EAR.*

BY B. A. WADDINGTON, M.D., SALEM, N. J.

Since our last meeting little has been added to the literature of diseases of the throat, nose, and ear, so far as my own reading and experience have extended; I shall read only a short paper, covering thirty-six years of experience, as a general practitioner of medicine, in the diseases named.

The inflammatory diseases of the upper respiratory tract and ear do not receive at the hands of the busy general practitioner the careful consideration which their gravity demands. The crying babe is given the ordinary treatment and passed over. It continues to fret, and we are at last informed that the little one's ear is discharging, and peace, as far as pain is concerned, is restored. Even then attention is apt to be lax. The child grows into years, either with a persistent discharge, more or less offensive, or with recurrent earaches, to be followed by a flow of pus.

It is a matter of observation that the average dull child is not lacking in brain capacity, but is hampered by inability to hear clearly. So it makes no difference how much "gray matter" he has, he lacks the power of perfect development. These are the cases, it is sad to say, that we are told time will end.

Disease of the upper respiratory tract, as a whole, is the primary cause—*i. e.*, disease of the mouth, nose, and pharynx; hence evil consequences must result.

The eruptive diseases of childhood are, of all, the most important factors in the etiology of the diseases under discussion.

If the upper respiratory tract is the seat of the trouble it behooves us to give close attention to local medication, since involvement of the Eustachian tube and extension of the inflammation into the middle ear are followed by the direst results.

Take it as you will, there must be a bacteriological cause for these conditions. To illustrate, the simple aphtha, the baby's sore mouth, while related to diphtheria does not present the same toxic manifestations. These are conditions frequently lost sight of, which cause evil results in the upper respiratory tract of the child.

The every-day cold of the baby is apparently of no importance; still its results multiply, and thus develop the structural changes that mark the subsequent stage of nasal disease.

There is much to say of the non-recognition of the first stage of catarrhal inflammation in the babe. We pay too little atten-

*Read before the New Jersey State Medical Society.

tion to the infants, a large proportion of whom are subject to middle-ear disease. Too often, owing to lack of care in observation, the little one has had, or is permitted to pass through, a mild form of some eruptive disease.

Ordinary exposure does not cause sufficient pharyngeal inflammation to give rise to these conditions. External influences have a much greater effect upon the young babe than upon the adult. The position in nursing, in many cases, results in gravitation of the milk into the middle ear through the Eustachian tube, thereby setting up an infectious middle-ear disease.

At this time it is well to take up a class of cases that are lighted up by such conditions as exposure, low vitality, and chronic tonsillar engorgement, causing, by continuity of the membrane, an affection of the tube. In the latter cases the existing conditions are always potent. Nasal defects constitute another etiologic factor. Deformities with recurrent nasopharyngeal inflammations increase tissue changes already begun.

Constant obstruction of the breathing apparatus converts the child into a mouth-breather, consequently irritation increased by any exposure is likely to set up an acute inflammation. In this class of cases retained Eustachian secretion may cause an increased irritation.

I have seen a number of cases in children and adults with persistent uric acid diathesis, in which there appeared to be such an excess of excrementitious matter in the blood that it almost seemed to burst forth, literally setting the whole respiratory tract on fire. Tonsillar engorgement was marked in all of these cases, and there was more or less Eustachian involvement.

While this class of cases need care, how much more serious are the eruptive diseases; it would be well to give close attention to the local medication in these, as well.

It is admitted, notwithstanding the most diligent treatment, that the prognosis is always grave; yet it is possible to modify the general results. To be consistent, it is our place and the patient's right to have the nose, throat, and ear persistently looked after.

As measles, scarlet fever, and diphtheria belong to the same family, their effects are the same and only modified by the severity of the cases. It is doubtful if any child having one of these diseases ever comes out perfectly sound. This fact may be overlooked when the hearing for ordinary purposes is still retained, its acuteness only being impaired. Sloughing of the middle ear may occur in scarlet fever. In some cases unilateral or bilateral facial paralysis may occur, according as one or both ears are affected. In smallpox the inflammation may be so severe in the pharyngeal space as to invade the middle ear, causing necrosis

of the osseous structures of the internal ear, including the labyrinth.

If the child passes through an attack of one of the eruptive diseases with comparative safety, observation over a period will show in many cases an atrophic change in the nasal passages. Any bacteriological change sufficient to destroy tissue may give rise to marked atrophy, to the extent of producing ozena in its mildest or even its most severe form.

One of the sequences of typhoid fever is interference with the function of the auditory nerve to such an extent as to permanently impair the hearing. There is no doubt that much of the hebetude of typhoid cases is due to this fact. In at least two per cent of these cases the middle ear is also involved. There is a possibility that by continuity of structure the meninges may become involved. In other cases there is an involvement of the bronchi, nasopharynx, and Eustachian tubes.

While on this subject it may be well to speak of the treatment of ear disease complicating typhoid. Not much can be done technically on account of the difficulty in placing the patient. The only thing to do in cases where the ear symptoms are marked is to syringe the ear with warm saturated boric acid solution. Inflation by the Politzer bag involves much danger, as nasal hemorrhage is apt to follow its use. There is a condition that is worth mention, and that is the sudden deaths in this fever which are classed by some physicians as due to heart failure. This is a septic disease in which inhibition of the nervous system is marked. When the patient is placed in a sitting position there is sudden paralysis of the abductor muscles of the larynx, and he suffocates from the inability to inspire.

Tubercular subjects, belonging to the class in which glandular involvement is common, frequently develop middle-ear affections. This form of tuberculosis, like the pneumonic form, leads to a slow softening of the drum, which is painless, and which goes on week after week, and continues for months until the drum is completely destroyed.

Specific cases are classed justly under their own headings and so treated.

The treatment of these cases is anticipative if possible, and should include modification of the symptoms as they arise.

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EDITORIAL ARTICLES.

AN AGGLUTINATION TEST IN MALARIA.

Now that research has demonstrated that malarial parasites pass into the bodies of Anopheles, and by inoculating other individuals so propagate paludal fever, the cure of malaria has been identified with its prophylaxis. For this reason special interest attaches to the recent contribution of Dr. Giovanni Grixoni, of Bologna, upon the agglutinating power of malarial blood. Grassi has noted the fact that if it were possible to exclude malarial patients from malarial localities, it would not take more than twelve months to obtain control of the disease, as this would prevent the infection of the Anopheles and so suspend their power of inoculating others. Thus, it becomes very necessary to be able to diagnosticate perfect recovery from hemosporidian fever. Hitherto it has been almost impossible to say when an individual is completely cured of a malarial infection, and the prolonged administration of quinine has been more or less empirical in its character. Grixoni's recent investigations, founded upon an examination of 130 cases in the military hospital at Bologna, have shown that there is a method of determining this fact with precision. This is found in the agglutinating power of the blood. The blood or serum of one afflicted with malaria agglutinates the erythrocytes of normal man. The blood of a healthy man lacks entirely this power. In cases of suspected malaria it is therefore sufficient, in order to make a diagnosis, to mix a drop of the blood or serum of the febrile individual with a drop from one known to be free of malaria. The phenomenon of agglutination is then visible, becoming apparent some seconds after the preparation has been made, and visible to the naked eye in about ten minutes after the mixture has been made. When the blood of one who suffers from malaria presents a trace of agglutination, although from a clinical

standpoint the disease may be considered overcome, it is necessary to insist on the continued administration of quinine, as the affection persists in a latent state. This agglutinating power is specific of malaria. It has failed to be discovered in the most varied febrile affections, except in typhoid fever, in which it is also present.

It would seem that Dr. Grixoni's discovery will furnish us the means of a simple and sure diagnosis as to the existence of latent malaria, and now that the malarious individual is known to be the ultimate source of infection, to know when he is entirely free from infection is as important to the community in which he lives as it is to himself.

EDITORIAL NOTES.

As to Chess-playing.

In alluding to the mental breakdown of three great chess-players, *American Medicine* thus comments on the game of chess: "The military, medieval, and royal types of life upon which the imitation battle is founded are no longer desired in modern civilization. Evolution has gone beyond all that, and the commercial, scientific, and democratic ideas of civilization are so different that the mental exercises that mimic and stimulate the old and outworn phases of human activity are precisely those that do not conduce to progress and success. Peasants are no longer pawns, castles are in ruins, and if a king is checkmated, there are thousands of better men fitted to rule under the title of President, Governor, etc. Physiologic or biologic problem-solving is not helped by the peculiar mnemonics and ingenuities of the chess-nut solver."

This sounds as if there might be a great meaning in it, and while you do not exactly know what physiologic or biologic problem-solving is, it may be stated that it is pretty certain that it is not impeded to any extent by indulgence in the healthy mental recreation afforded by the game of chess. As for it being an imitation battle, and founded upon a medieval type, all games that are games appeal in some way or other to past racial experiences. All sports, as well as children's games, are practically ontogenetic rehearsals of the phylogenetic series. In an analysis of the lives of great chess-players it will be found that they are as a class about as healthy as any other, and that while there may have been breakdowns, these have been the result of other excesses than those produced by the game of chess.

An Important Decision.

A physician may perform an additional operation if, during the first, he discovers a condition of the internal organs which renders the second one necessary to preserve the life of the patient, even though he has not the consent of the patient. This is according to a ruling by Judge Kavanagh, of Chicago.

The decision was rendered in the case of Mrs. Agres Muehern against the postgraduate medical school and hospital. Mrs. Muehern was operated on by one of the professors of the college, and while she was under the influence of an anesthetic a condition as indicated was discovered, and a second operation was performed.

A Useful Benefaction.

Among the useful benefactions of Mr. John D. Rockefeller, none is likely to meet more hopeful results than the institute for medical research, for which he has lately provided a sum of $200,000 for current expenses for a series of years. The humane ends which such an institution will ultimately serve, and the practical contributions to knowledge which will come from it, will be more gratifying to the donor than from any other form of practical charity.

An Antivaccinationist.

The Honorable Tom L. Johnson is an excellent street railroad man, a good chess-player, and it is believed a good mayor of the city over which he presides, but there are some things about which he is evidently not qualified to speak. When he summarizes vaccination as "contaminating a man's blood with poison" he has evidently not sized up the situation with his customary mentality.

ITEMS AND NOTES.

SMALLPOX has broken out at Hamilton, Ontario.

TYPHOID FEVER is reported epidemic in Pittsburg, Pa.

AN epidemic of scarlet fever is reported from Amsterdam, Wis.

OFFICIAL reports show that the population of France is slowly on the increase.

PROFESSOR LAVERAN has been made a member of the French Academy of Sciences.

ACCORDING to a cable despatch, the epidemic of plague at Hong Kong is on the increase.

A BRONZE statute in memory of Dr. A. J. C. Skene has been proposed for Prospect Park, Brooklyn.

THE baccalaureate sermon at Rush Medical College was preached this year by Prof. Nicholas Senn.

TWO medical scholarships have recently been founded in Moscow by the widows of two prominent physicians.

FOURTEEN of the twenty-six graduates of this year's class of the Cornell University Medical School were women.

A NEW emergency hospital is to be erected in Los Angeles, California, which will accommodate about 350 patients.

THIS year's graduating class of the Johns Hopkins Medical School was by far the largest in the history of that university.

THE reports of Major Gorgas, the health officer of Havana, show that there is a complete absence of yellow fever in that town.

THE colored physicians of Jackson, Miss., have organized themselves into the Medico-Chirurgical Association of Mississippi.

DR. E. STADELMAN, director of the medical department of the Urban Hospital, Berlin, and professor in the University of Berlin, has just died.

DR. CHRISTIAN FENGER, of Chicago, has been made an honorary member of the Association of Military Surgeons of the United States.

It has been claimed that one-fourth of the young men who have applied for admission to West Point have been unable to meet the physical qualifications.

The second annual meeting of the Roentgen Society of the United States will be held at Buffalo on September 10 and 11, 1901, in the University building.

Immigrants suffering from consumption will be barred from entrance into Canada along similar lines as those inaugurated by the United States Immigration Department.

Owing to an epidemic of suicides in Emporia, Kansas, the Mayor and Board of Health have forbidden the publication of details of suicides or attempts in local papers.

A recent cable despatch says that the Sultan of Turkey intends to present to the Berlin Hospital a wing, the plans of which have been sent to Emperor William for approval.

Dr. Remlinger, a graduate of the University of Lyons, and formerly a medical officer of the French army, has been appointed director of the Antirabic Institution of Constantinople.

A young Italian lady, Dr. Rina Monti, who has published several scientific papers and who gained a university gold medal, has been accepted by the University of Pavia as a lecturer in anatomy.

McGill University has been chosen as one of the institutions which will carry on original research work under the supervision of the newly incorporated Rockefeller Institute of Medical Research.

The birth of the new Italian princess has been made the occasion for a handsome donation by the King of 200,000 lire ($40,000) to the Commune of Rome toward the erection of a sanatorium for tuberculous children.

The annual address in medicine at Yale University was delivered by Prof. Edmund B. Wilson, Ph.D., of Columbia University, on "The Higher Claims of Minute Research in Biology and Medicine," in the College Street Hall, Yale University, on Tuesday, June 25, at noon.

According to a press despatch from New York, a census of consumptives is to be begun. It will be the first of the kind ever undertaken by that State. It is expected that it will throw light on the question of what the State should do for the care of those afflicted and who cannot afford to pay for treatment.

An active campaign is being waged at present with a view to the creation in Paris of a school of colonial medicine. Prof.

Raphael Blanchard is at the head of the movement, and a public subscription has been started for the inauguration and endowment of the new institute. Already nearly 250,000 francs have been subscribed.

An order has been issued by the Superintendent of Immigration debarring tuberculous immigrants from all ports of the United States. The supervising surgeon of the Marine Hospital recently declared tuberculosis of the lungs to be a dangerous contagious disease and the law required such to be debarred. Under the old ruling they were debarred only when they were likely to become public charges.

A German society for the study of the history of medicine and the natural sciences has recently been founded. The organizing committee consists of Prof. G. W. A. Kahlbaum, of Basel; Prof. J. Pagel, of Berlin; and Dr. Sudhoff, of Hochdahl. The society will hold its first annual meeting immediately after the close of the forthcoming meeting of the Association of German Scientists and Medical Practitioners.

Half of the income from the $10,000,000 gift of Andrew Carnegie to the universities of Scotland will be expended in strengthening the faculties of science, medicine, history, modern languages, and literature, until these become as strong as similar faculties in the universities of Germany and the United States. The second half will be expended in paying the ordinary class fees of Scottish students, female as well as male.

Several years ago a wealthy resident of Concord, N. H., lost a leg, which he had preserved in alcohol and stored in a drug store. When he died, twelve years later, the leg was taken from its jar and interred with his body. Shortly after, the druggist who had cared for the leg sent to the trustees of the estate a bill for $3450 for services rendered in connection with the amputated limb. This bill the trustees refused to pay, and the druggist brought suit. The case was tried, says the *Medical Record*, in the Superior Court, and a jury brought in a verdict for the plaintiff for $1979.16.

The following is an extract from Dr. Susie C. Rijnhart's book, "With the Thibetans in Tent and Temple": "For headache, large sticking plasters are applied to the patient's head and forehead; for rheumatism, often a needle is buried in the arm or shoulder; a tooth is extracted by tying a rope to it and jerking it out, sometimes bringing out a part of the jaw at the same time; a sufferer with stomachache may be subjected to a good pounding, or to the application of a piece of wick soaked in burning butter grease, or, if medicine is to be taken internally, it will consist

probably of a piece of paper on which a prayer is written, rolled in the form of a pellet, and, if this fails to produce the desired effect, another pellet is administered composed of the bones of some pious priest."

The Army Board which has been in session in Washington for the examination of candidates for appointment in the medical corps of the army held its final meeting during the week of June 17, and then adjourned until next September. The results of the board's work have been, according to an exchange, disappointing in the few candidates who have met all the requirements. Since February not more than forty young physicians have proved their ability to receive commissions as assistant surgeons, and some of these were acting assistant surgeons in the service in the Philippines. The report of the board at Manila has been received at the War Department, and after all the appointments have been made there will still remain eighty vacancies in the 129 new positions, which are created by the army law of February 2.

In answer to a numerously signed petition, the Equitable Life Insurance Society of New York has, according to the *Medical Record*, agreed to put in a special class any successful applicant for insurance who declares that he has been a total abstainer from the use as a beverage of alcoholic liquors, including wine, beer, and fermented cider, and as a condition of membership in this class agrees to remain a total abstainer as long as his policy is in force. Any surplus apportioned to the policy will be based on the experience of the society on policies belonging to the total-abstainer class. It is believed by the petitioners that the number of the total-abstinence class will receive the benefit of largely increased dividends. A number of British life insurance companies have for many years segregated their total-abstinent policy holders.

According to the *New York Medical Journal*, Surgeon-General Sternberg has been advised of the shipment from Manila of an admirable model of Hospital No. 3. It will be placed in the Army Medical Museum, at Washington, D. C. The model is built on the scale of 1 to 250, upon a single square of narra wood, and shows all elevations, drainage, and sanitation. The model includes, besides Hospital 3, the hospital corps company of instruction and the hospital corps camp of casuals, which are adjacent and under the same command. The details are made from the original material of the buildings and walls which they represent. Every ward-room, office, tent, hydrant, tree, fence, or ditch is reproduced in a miniature size. The gradations of the land surrounding the levels of drains are exact in proportion. It took two months to construct the model.

NEW PUBLICATIONS.

A SYLLABUS OF NEW REMEDIES.

The numerous remedies synthetic chemistry is perpetually adding to the physicians' resources make some such work as this from time to time necessary. Dr. Wainwright's little volume is a useful compendium of the more recent additions to the materia medica.

A Syllabus of New Remedies and Therapeutic Measures. With Chemistry, Physical Appearance, and Therapeutic Application. By J. W. Wainwright, M.D., Member of the American Medical Association, New York State Medical Association, United States Pharmacopœial Convention, 1900, American Chemical Society, etc. Pages, 229. Price, $1.00 net. Chicago: G. P. Engelhard & Co., 1901.

ETIDORHPA.

Prof. John Uri Lloyd's interesting story has now reached the eleventh edition, which is in itself a sufficient indication of the wide interest it has excited. The story is an interesting one, and has a basis sufficiently scientific to render the experiences it recites to come almost within the limits of probability. The present edition is admirably compiled, and is copiously illustrated with some most remarkable pictures. As a literary creation it is quite out of the ordinary, and displays a vivid imagination on the part of the author.

Etidorhpa, or the End of the Earth. The Strange History of a Mysterious Being and the Account of a Remarkable Journey. By John Uri Lloyd, Author of "Stringtown on the Pike." With Many Illustrations by J. Augustus Knapp. Eleventh Edition, Revised and Enlarged. New York: Dodd, Mead & Co., 1901.

ECZEMA AND ITS MANAGEMENT.

Among his Student's Series on Diseases of the Skin, Dr. Bulkley presents the third edition of his Manual on Eczema and its Management. The compilation is so concise yet comprehensive in manner of a disease which in its many forms comprises fully thirty per cent of all diseases of the skin, and is in a style so clear, simple, and direct, that it could be the work only of one familiar by long experience and trained to observation of this protean disease. Essentially practical in his views, the author presents the subject matter in a manner so positive as to avoid the controversies now existing as to the true nature of this disease, and to enable the practitioner to make practical use of the author's long clinical experience. The suggestions as to treatment are especially good, and in the chapter on Therapeutics is included a number of formulas which the author has found of distinct service.

The reviewer commends the book in the highest terms, not only to him for whom it is written, the student of medicine, but to the practical man as well, the practitioner.

Eczema, with Analysis of 8000 Cases of the Disease. By L. Duncan Bulkley, A.M., M.D., Physician to the New York Skin and Cancer Hospital, etc. Third Edition, 1901. Entirely Rewritten.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Operations for Gastric Ulcer.

Professor Korte (*Lancet*, June 15, 1901) lately read a paper before the Berlin Verein für Innere Medicin on the surgical treatment of gastric ulcer. He said that the principal indication for operation is stenosis of the pylorus with dilatation of the stomach as a sequel of cicatrized ulcers; operation is also sometimes indicated in open ulcers of the pyloric or prepyloric region, when the pain is very severe and cannot be relieved by internal treatment. Other indications are small but repeated hemorrhages, profuse hemorrhages, perigastric adhesions, and perforation of the stomach. In perforation, owing to the imminent danger of peritonitis, an operation must be performed as soon as possible, and not later than twelve hours after the perforation has taken place. In the other cases—viz., in stenosis with dilatation, hemorrhages, etc.—the indication is not so absolute as it is in perforation. The dangers to be anticipated depend on the nature of the case, on the general state of the patient, on the size and position of the ulcer, on its adhesions, etc. Some of the immediate dangers of the operation, such as infection of the peritoneum and giving way of the sutures, might be diminished by the adoption of improved methods, but there still remains a liability to complications over which the surgeon has no control, among which might be mentioned pneumonia, embolism, and hemorrhage from open ulcers. Notwithstanding these dangers an operation must not be postponed too long, as in an exhausted patient the risk becomes, of course, much greater.

Professor Korte has performed operations on thirty-eight patients with gastric ulcers; in seventeen cases there were open ulcers, and in the remainder there were cicatrices. All the patients had been ill for a great while, some of them for as long as twenty or thirty years, and all of them had undergone protracted internal treatment. Their general condition was bad, and they complained of gastric pains and vomiting. In eighteen cases there was hematemesis; in thirty-two cases there was stenosis with dilatation, the seat of the stenosis being as a rule the pylorus; in one case, however, it was in the duodenum, in five cases in the prepyloric region, and twice in the middle of the stomach. Apart from

stenosis operations were performed once for profuse hemorrhage, ten times for perforation into the peritoneum, and six times for perforation into the subphrenic tissue.

With regard to the methods of operation, resection ought to be performed only when there are no adhesions and when the case is suspected to be one of cancer. In five circular resections one death occurred. Gastroenterostomy was performed twenty-nine times with a mortality of 20.6 per cent. In one case complicated with stenosis of the esophagus, gastroenterostomy was combined with gastrostomy. Hacker's method was exclusively used without a Murphy's button, and only one pyloroplasty was performed. One patient had to be operated on for profuse hematemesis; a ligature was put on the bleeding artery, and it seemed as if he might recover, but after a week he died from renewal of the hemorrhage. Nearly all the patients operated on for perforated ulcer showed the symptoms of peritonitis. The operations were performed, as a rule, from twenty to twenty-four hours after the perforation had taken place, the result being that out of ten patients only one recovered.

In the discussion the views of Professor Korte were received with approval by Professors Ewald, Rosenheim, Fraenkel, and other speakers.

Surgical Treatment of Acute Appendicitis.

At the recent meeting of the Berlin Surgical Congress, Rehn (*Medical Press,* June 12, 1901) spoke on the surgical treatment of acute appendicitis. He said he is in favor of early operation. Cases have increased during recent years, owing to the disease being better diagnosed, but he believes it is really more frequent and more malignant. The views of surgeons as to operative treatment are widely different, but in general the partisans of conservative treatment preponderate. The general rules of surgery are the ones applicable, for which reason it is not to be wondered at that surgeons should be shy of removing a suppurating appendix. In diffuse peritonitis one operates, in chronic one waits. The danger of septic abscesses is greater than that of operation. In one case of infection of the peritoneum he washed out without any following reaction. The diseased appendix must be removed; failure occurs through the disease being too far advanced. Rehn has operated in 180 cases, either in the acute stage or that immediately following. Of these 134 recovered, and 46 died, 38 in consequence of diffuse infection of the peritoneum. He has operated in 35 cases of diffuse septic peritonitis, of which 8 recovered. In 34 he operated before pus formed, without any death. Of 33 cases

of acute gangrene, 11 died of acute peritonitis. From this it follows that operation should be performed not only in the intervals, but during acute attacks, as we cannot tell beforehand how far the disease has advanced, and we are often surprised by serious complications. Operation in the acute stage is not so dangerous as supposed. If the acute stage is passed internal treatment would be of use. If the symptoms do not subside, we have to deal with an insidious disease. A portion of the cases could be treated by incision through or rupture into the rectum, but the conditions here are more complicated and dangerous. The abdominal opening should be made sufficiently large, and the appendix reached quickly, and the parts washed out with saline solution. If the process is recent the appendix should be removed and a drain left in, and through the drain a hot physiological saline solution should be allowed to run. The after-treatment is of great importance.

Operative Treatment of Wounds of the Pancreas.

Ninni (*British Medical Journal*, June 8, 1901) relates a case of revolver wound of the abdomen in a man aged twenty-seven. The patient had run more than 500 yards after receiving the wound, but was brought to hospital collapsed, almost unconscious, with thready pulse and abdomen painful and tympanitic. The bullet had entered close to the second lumbar vertebra, and after passing through the pancreas had made six wounds in the small intestine and one in the colon at the hepatic flexure, and came out in the right epigastric region. An incision was made from the xiphisternum to half-way between the umbilicus and pubes, giving vent to blood and gas. Having sutured the seven intestinal wounds, while making the peritoneal toilet he found blood and fluid oozing from between the stomach and transverse colon on the right. Making a transverse incision from the umbilicus to the right axillary line, and tearing through the gastrocolic omentum, he found a wound of the pancreas at the junction of the head and body, which he closed by two deep sutures, thus arresting all extravasation of blood and pancreatic juice. The after-progress was normal; the patient left the hospital after thirty-five days.

The author discusses the principles hitherto laid down, and holds: (1) Punctured or incised wounds of the pancreas should be sutured; if the duct is cut, suture as in intestine, leaving no thread in the lumen, so as to avoid risk of calculi forming. (2) In gunshot wounds, if there is not much laceration, suture in bulk; if lacerated, resect; if the laceration is total, one can only plug, for removal of the whole gland is difficult and fatal. (3) To contused

wounds the same rules apply. (4) In rupture, there being usually not much laceration, suture. In all cases, if suture does not stop the hemorrhage, ligature.

Hernia of the Urinary Bladder.

The principal cause of bladder hernia, according to W. S. Cheesman (*Medical Record,* June 22, 1901), is direct traction exercised through the peritoneal coat by the weight of the hernial mass, or by pull on the sac during ligation in operations for radical cure. In one-sixth of the cases symptoms occur sufficient to arouse suspicion, sometimes amounting to certainty, of the existence of the abnormality. In about one-fourth of the cases it may be possible during operation to recognize the bladder and avoid injuring it; and after one hernial sac has been found, any structure resembling a second should be regarded as bladder, until proved otherwise. When the bladder is wounded, the best procedure is immediate suture by two layers of catgut, and closure of the hernial wound by Bassini's method; a small drain only being left leading to the bladder suture line. The bladder wall, when thinned, may be freely resected preparatory to closure. The catheter *a demeure* is not essential to primary union of wounds thus closed. Urinary fistula nearly always closes spontaneously. Injuries of the bladder have been directly responsible for death in only ten per cent of the hernia cases in which they occurred.

The Surgery of Chronic Ailments of the Stomach.

A. B. Mitchell (*Medical Press,* June 12, 1901) says that surgeons have not yet devoted sufficient attention to ulcer of the stomach. Ulcer, the writer thinks, is more commonly anterior than is generally acknowledged. Those ulcers which do not resolve under medical treatment give rise to grave lesions in direct proportion to their duration, including pyloric obstruction, hourglass contraction, involvement of neighboring organs, and attacks of peritonitis resulting in troublesome adhesions. There is no more serious surgical complication than extensive adhesions, owing to their tendency to involve large vessels, nerve plexuses, and vital organs. Where there are extensive adhesions it is probably better to leave them alone and provide for rapid emptying of the stomach by gastroenterostomy. Where the ulcer is on the anterior wall it may be possible to infold or excise it, which is the ideal method of treatment; but when posterior this will generally be omitted in favor of gastroenterostomy. In patients past

middle life early exploration must be more frequently undertaken if the gastric surgery of this period is to attain the triumphs to which it is entitled.

Abdominal Versus Vaginal Hysterectomy.

H. O. Walker, in the *American Journal of Surgery and Gynecology* for June, 1901, says that, all things being equal, the abdominal route offers advantages for a more complete hysterectomy than the vaginal route. First, we are better able to see what we are doing; secondly, we are much better able to control hemorrhage than by the vaginal route, where we are working in a dark cavity; there is less liability of slipping of the ligatures, and if they do slip they are got at more easily than by the vaginal section; thirdly, the danger to the ureters is minimized, and if injured the opportunity for repair is better, while if injured by the vaginal route we would have to do an abdominal section to make the repair; fourthly, the prevention of sepsis is more certain by abdominal than by vaginal section, aided in the first instances by the Trendelenburg position, which gives opportunity for full protection of the intestines and peritoneum, while in the latter the opportunity for protection is limited, as it is an utter impossibility to render perfect sepsis in the vagina where there has been a long-standing infectious disease, such as cancer.

Strangulation of an Intestinal Loop by the Appendix Growing Around It.

Hermes (*Deut. Med. Woch.*, No. 23, 1901) reports an interesting case of a woman twenty-two years old who came to the hospital looking pale and giving a history of stomach trouble for the past seven years. She complained of pain in the region of the stomach and of vomiting that morning. Upon examination nothing was detected except a sensitive region over the stomach. The diagnosis of gastritis was made with the possibility of ulcer. The next morning the patient complained of a gastric pain and vomited a little mucus. Later she retained some milk and her bowels moved. Early in the afternoon she suddenly began to retch and vomit some of the milk, mucus, and bile of a fecal odor. Two hours later she began to decline; her eyes were sunken, with an anxious expression on her face, and there was pain all over the body. Pulse very small but regular. Abdomen somewhat distended; equally sensitive over all parts; no localization of pain over stomach or appendix. The diagnosis now seemed to be between

perforation-peritonitis and intestinal obstruction. An operation was undertaken at once, and a loop of intestine twelve inches long was found strangulated by the appendix contracting about it.

MEDICINE.

Conclusions Based upon Three Hundred Outbreaks of Infectious Diseases Spread Through the Milk Supply.

The following conclusions, as to the manner in which milk may be dangerous, have been reached by G. M. Kober (*American Journal of the Medical Sciences,* May, 1901):

1. Sour milk or milk on the point of souring is liable to produce gastric and intestinal catarrhs of acute or chronic character; as an example we have cholera infantum. The causes of souring are lack of cleanliness and high temperature. The author quotes Bitter as claiming that milk is unfit for food which contains over 50,000 bacteria per cubic centimeter. However, as the number of bacteria can be reduced to from 4000 to 6000 per cubic centimeter, with care the above figure would seem, in our opinion, to be far too large to willingly put up with.

2. Milk may be unfit for use and cause sickness because the animals are improperly fed or are being treated with the various potent therapeutic agents which are eliminated through the mammary gland. The writer states that symptoms of poisoning from arsenic, copper, iodine, lead, mercury, tartar emetic, atropine, colchicum, croton oil, strychnine, veratrum viride, etc., have been thus occasioned.

3. Milk may be the product of a diseased animal. The author states that local diseases of the udder, as garget, which causes pseudodiphtheria, as well as general diseases, may be thus conveyed to the consumer. Among general diseases are "septic fevers, foot-and-mouth disease, cowpox, anthrax, pleuropneumonia, rabies, and tetanus."

4. Tuberculosis he considers to be so frequently acquired from milk as to deserve a separate section.

5. Finally, but by no means least important, milk may acquire specific infective properties after it leaves the udder of the animal.

The epidemics discussed in the paper are chiefly epidemics of typhoid, scarlet fever, and diphtheria.

The Blood of the New-born.

F. Varaldo (*British Medical Journal*, June 15, 1901) has made observations on the histological and physical characters of the blood of the umbilical vein as compared with that of the umbilical arteries of the infant at the moment of birth. By a method differing a little from those previously employed by investigators, he obtained some blood from the arteries of the umbilical cord and some from the vein. He found that the blood of the vein was richer in leucocytes than that of the arteries, but there was no constant difference between the number of the red cells. The blood of the vein contained more hemoglobin than that of the arteries, but its density was less. Further, it was found that the leucocytes of both the vein and the arteries contained an iodophilic substance (as shown by Ehrlich's reaction), and that the leucocytes of the vein contained it in greater amount. The possible bearing of these observations upon the question of the nutrition of the fetus is that they seem to show that leucocytes coming from the placenta (and from the maternal circulation) are arrested in the fetal tissues, and that consequently special substances which they contain (iodophilic granules, glycogen ?) are also given to the tissues. There are other differences between the blood of the vein and of the arteries, so that we are justified in concluding that there is a dissimilarity of the complex nature. The mothers of the infants were quite healthy and the pregnancies uneventful.

Acute Myelitis.

Von Leyden, at the recent meeting of the German Congress of Internal Medicine (*Lancet*, June 8, 1901), read a paper on this disease, discussing it from the clinical point of view. He said that there are four forms of the disease: transverse myelitis, disseminated myelitis, poliomyelitis, and compression myelitis. Inflammation, softening, and hemorrhage of the spinal cord are the principal anatomical lesions of myelitis. With respect to the etiology it is very probable that the disease is caused by infection: the majority of the cases are, in fact, subsequent to infective diseases, such as influenza, enteric fever, rheumatic sore throat, phlegmon, etc. He has observed cases of myelitis following gonorrhea, tuberculosis, and syphilis. Apart from infection myelitis might be caused by various injuries. The clinical symptoms differ according to the localization; there is a dorsal, a cervical, and a bulbar form. The disease might develop either suddenly or gradually and by intervals. Myelitis might advance to the bulb and so constitute an immediate danger to the patient's life, or it might

spread in a transverse direction. Neuroparalytic symptoms, such as paresis of the bladder and rectum, bed-sore, etc., appear somewhat early and make the prognosis unfavorable. The disease, as a rule, terminates fatally, but in some cases recovery has been observed. Sometimes the disease becomes chronic. Good nursing of the patients is especially necessary.

The Etiology of Whooping-cough.

As a result of their investigations into this subject Drs. Jochmann and Krause have made a communication to the *Zeit. f. Hug. und Infectious Krankheiten,* Bd. 36, H. 2. The summary is as follows:

1. In the sputum of whooping-cough an influenza-like bacillus is found in the majority of cases.

2. These bacilli, morphologically alike, do not belong to one species, but there are three distinct kinds, which can be distinguished from each other either by their biological or their staining properties.

3. This accounts for the difference of views of different investigators.

4. The authors do not consider Czaplewski and Hensel's bacillus to be the originator of the disease, as they have found it in the sputum only four times, and because those investigators did not carry their investigations far enough.

5. In eighteen cases, and among them were three post-mortem examinations, an influenza-like bacillus was isolated which thrived exclusively on a soil containing hemoglobin, and which the authors have named the "Bacillus Pertussis Eppendorf."

Syphilitic Fever.

T. B. Futcher (*New York Medical Journal,* June 22, 1901) says that in all cases of fever of obscure origin the possibility of it being syphilitic should be borne in mind. Experience has shown that physicians of reputation, as well as those of limited experience, are prone to mistake the condition for one of the acute specific fevers. The affections for which syphilitic fever is most often mistaken are malaria, typhoid fever, tuberculosis, sepsis, and occasionally rheumatic fever. The fever may occur as early as four weeks previous to the appearance of the secondary skin eruption, or, what is of greater importance, late in the disease after tertiary manifestations have existed probably for years. The fever may be

continuous, remittent, or intermittent. The remittent type is regarded as the most frequent form of invasion. The fever is often associated with chills and sweating. Careful examination of the long bones and viscera for evidence of tertiary lues should be made in all cases of fever of obscure origin.

The Bacteriological Examination of Clinical Thermometers.

R. C. Rosenberger (*American Medicine*, June 22, 1901) says that it is possible for the thermometers to be laden with the usual flora of the oral cavity, and that such bacteria may retain their capability of growth for an indefinite time, at least two months. Many pathogenic bacteria possess similar capabilities, and it is not unreasonable to assume that transmission of bacterial disease by the thermometer is possible. Clinical thermometers are usually disinfected, and where possible each patient should be possessed of a thermometer, as much his own property and as sacred to his own use as his tooth-brush. Where for reasons of economy or otherwise it is impossible to carry out such recommendations as the above, the thermometer should be disinfected before and after using. The custom now prevalent in the hospitals of keeping thermometers in disinfecting solutions is to be commended.

Etiology of Articular Rheumatism.

Singer (*Wiener Klin. Woch.*, No. 20, 1901) found, upon autopsy, streptococci in the various organs of five cases of acute articular rheumatism and one of rheumatic chorea. In another case of chorea accompanied by an inflammation of the elbow, preceded by a follicular tonsillitis, the staphylococcus pyogenes aureus was present. In 1898 the author wrote of the many clinical and anatomical similarities between acute articular rheumatism and staphylo-strepto-mycoses. Gradually it is being recognized, clinically, that there are a number of obscure and ambiguous diseases which belong in the border-land between acute articular rheumatism and cryptogenic pyemia. The discovery of a specific orgaism has been announced several times, but we know pneumonia and endocarditis can be caused by several varieties of bacteria, so in acute articular rheumatism no single variety can be held as its only cause.

PATHOLOGY AND BACTERIOLOGY.

UNDER THE DIRECTION OF THADDEUS WALKER, M.D.,
Microscopist to Harper Hospital, Detroit.

Cerebral Hemorrhage with Verrucose Endocarditis.

Simmonds (*Deut. Med. Woch.*, May 30, 1901) reports the findings in seven autopsies, two of which were upon children in whom the cause of death had been cerebral hemorrhage from a ruptured aneurism in the course of a recurring verrucose endocarditis. Bacteriological examination showed the same cocci in the thrombosed vessels as upon the valves of the heart, from whence they had been transported to the small cerebral vessel walls and there caused the formation of an aneurism. The relationship was quite evident. In two other cases of young women, death had occurred in one in consequence of rupture of an aneurism of the Sylvian artery, while the remainder of the vascular system, kidneys, and other organs were normal, except verrucose vegetations on the mitral valve; in the other case four aneurisms were found at the base of the brain. Verrucose vegetations recent and old were found on both aortic and mitral valves. No bacteria were discovered in either case. In three other cases cerebral hemorrhage was the cause of death, but no aneurisms were found. Each case had a history of chronic recurring verrucose endocarditis.

Simmonds admits there might be a mere coincidence between the verrucose affection and the cerebral hemorrhages, but believes that all seven cases described indicate that there is a close relationship between bacterial verrucose endocarditis and the cerebral lesion, especially in young persons where there is an absence of alcoholic, syphilitic, or other intoxications in their histories.

THERAPEUTICS.

Treatment of Chronic Articular Rheumatism.

Lindemann (*British Medical Journal*, June 15, 1901) believes that the future treatment of chronic rheumatism will consist chiefly of physical methods—massage, electricity, and heat. Salicylic acid, colchicum, alkalies, and other drugs given internally are all unsatisfactory. When massage is too painful, faradism often relieves the pain and admits of subsequent rubbing. Heat is most useful; it dilates the peripheral vessels, lowers blood-pressure, and produces reflex diaphoresis owing to stimulation of the cutaneous

nerve endings. Profuse sweating is often the most successful treatment of arthritis. The means of applying heat are very numerous: hot fomentations, vapor or Russian baths, and steam jets for local application, are all useful. Hot air is especially efficacious, and produces free respiration; it may be applied locally as a stream of air—a hot-air douche—the air being warmed by an electrical apparatus, or the limb may be enclosed in a case and surrounded by hot air at a temperature of 300° F., as in Tallerman's apparatus.

The writer has devised an apparatus both for local application of air and for general hot-air baths, in which electricity is the heating agent. The advantages are the perfect purity and dryness of the air. Temperatures of 194° F. can be borne by the whole body, and of 320° F. when the heat is applied locally. Chronic rheumatism is often, unlike gout, a purely local affection, and is then best treated by local applications. The local application of hot air, however, often produces general diaphoresis and not only local sweating. At the end of the application a cold douche or cold plunge is advisable. Arthritis sicca and deformans often improve rapidly, and gonorrheal rheumatism and arthritis nodosa are also favorably influenced by this treatment.

The writer also employs what he terms electrotherm compresses or pads, which consist of wires enclosed in asbestos and canvas, and which are heated short of incandescence. They require a current of only one to two amperes, and can be applied to any part of the body where dry heat is indicated. If an electric current is not available, thermophor compresses may be substituted. These are india-rubber bags which contain certain salts. If boiled for seven to ten minutes the salts melt and take up latent heat. As soon as cooling sets in crystallization begins, but this again liberates the stored-up latent heat, and the compresses therefore remain at about the same temperature for nearly eight hours.

Mud baths, "Fango" baths, and many of the numerous natural baths are also useful. The climate selected should be warm, dry, and sunny.

Electric incandescent light baths, as introduced by Kellogg, probably act in the same way as sun baths. A temperature of 176° F. is well borne in a general light bath, which acts as a rapid, clean, and simple diaphoretic. The radiant heat also stimulates the skin and improves metabolism, so that after a bath the patient feels refreshed, instead of exhausted, as is generally the case after free diaphoresis. For nervous patients the electric arc light may be substituted, as it is less stimulating. Perhaps the best results are obtained by combining general light baths—two or three a week—with the local application of hot air or the rays of the arc light, and with massage and hydrotherapeutics.

Application of Steam to the Uterus.

H. Fuchs (*Münch. Med. Woch.*, May 28, 1901) says that since the use of steam applied directly to the uterus, for the uncontrollable uterine hemorrhages of the menopause, it has not been necessary to perform a single hysterectomy at the Woman's Clinic in Kiel. He reports the results in twenty-two tabulated cases. Of these several had been curetted without any results. The steam at 115° to 120° C. was applied for twenty to forty seconds. In six cases the menopause was entirely brought about by the steaming; in six others menstruation began again, but in diminished quantity; and in eight more slight bloody discharges occurred at irregular intervals. All patients except one are in good health, and he has hopes that further treatment with steam will cure the slight hemorrhages still existing.

Inhalation of Sprays.

Saenger (*Münch. Med. Woch.*, No. 21, 1901) has made a number of experiments to determine the action of sprays when brought in contact with the respiratory organs by spraying the throat. He believes that the fluid does not necessarily penetrate into the deeper air-passages as a spray, for a considerable part of the inhaled cloud condenses on the posterior pharyngeal wall, and from there drips down into deeper parts. It is not to be denied that small amounts of the inhalation may penetrate the larynx, trachea, and possibly the coarser bronchi, in an unaltered state, but such quantities are too small to have any therapeutic value, and it seems impossible that any of the medicament in atomized form can ever reach the smaller and smallest bronchi.

RHINOLOGY AND LARYNGOLOGY.

UNDER THE DIRECTION OF WADSWORTH WARREN, M.D.

A Case of Primary Nasal Tuberculosis.

Kayser, of Breslau (*Monatsschrift für Ohrenheilkunde*, etc., vol. xxv, No. 4), in a report of some of the work done in his private polyclinic, among other interesting cases relates the details of a case of primary tuberculosis of the nose, as follows:

The patient, a woman thirty years of age, married, was under his care about two and a half years. The mother died of tuberculosis. Patient had a good personal history. Came under treat-

ment on account of impaired nasal respiration. Nothing abnormal about the pharynx, larynx, or lungs. Examination of the nose showed that the lower anterior part of the septum on the right side was occupied by a growth, having a granular surface, pale red color, and soft consistency. Under the right angle of the jaw numerous glands were palpable. The granulation tissue was removed with the snare and sharp spoon, and the base cauterized with lactic acid. About four months later she returned, the right side of the nose free, but the left nostril occluded. There was a perforation of the septum with an ulcerating border and an abundance of granulation tissue, especially on the left side. Having determined the tuberculous character of the affection by microscopical examination, all the diseased tissue was again thoroughly scraped away and the patient directed to use tampons of ten-per-cent iodoform glycerin in the nostrils daily. A month later she returned with the nose free from secretion and no recurrence of the trouble.

Two years later, however, she again came under observation, with some new granulations on the posterior border of the septal perforation, and granulation growths on the opposite surface of the lower turbinated body. The same thorough eradication of all diseased tissue was undertaken, with the result that the patient remained again free for six months, when slight granulations appeared but yielded promptly to treatment.

The case was undoubtedly one of primary nasal tuberculosis well localized, and its history and treatment show how the course of such an affection may be comparatively benign under thorough painstaking treatment.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

Insanity in Women from a Gynecologic and Obstetric Point of View.

A. Lapthorn Smith (*St. Louis Medical Review*, June 15, 1901) believes that insanity is not hereditary, as is generally supposed, but that it is sometimes contagious.

Insanity, in the majority of cases, is not due to organic disease of the brain, but to functional disorders of its circulation and of its circulating fluid.

In many cases in women the disorder of the brain's circulation is caused by reflex irritation, carried by the sympathetic from the pelvic organs and caused by retroversion of the uterus, cirrhotic ovaries, febroid tumors, etc.

In many cases it is the fluid circulating in the brain which is at fault; in some it is too poor in quality because the digestive apparatus is interfered with by reflex irritation of the sympathetic, due to a lacerated cervix, endometritis, etc.

In a lesser number of cases the brain is prevented from working because the blood is badly oxygenated or loaded with uric acid, urea, or other poisons.

Hundreds of cases are now on record of insanity being cured by removal of the cause; the greatest number of mental cures having followed ventrofixation and the shortening of the round ligaments, for the removal of retrodisplacements, while many others have followed the ablation of fibroids, cirrhotic ovaries, the repair of lacerated cervices, and even curetting.

Such being the case it is the duty of the family physician to examine carefully every woman in his practice who becomes insane, or to have her examined by a gynecologist, and if any pelvic disease is discovered it should be remedied.

It is the duty of every medical superintendent of an insane asylum to have a systematic examination made, preferably under anesthesia, so that unsuspected sources of irritation of the sympathetic situated in the pelvis may be removed. In one asylum alone this course has resulted in improvement in sixty-six per cent, and recovery mentally of forty-two per cent of those operated upon, although the pelvic troubles had existed for from six to sixteen years.

If anything is done it must be done thoroughly, as several cases have been reported where no benefit resulted until a second and more complete operation was performed.

In view of the number of women who become insane from uremia, more care should be exercised by practitioners in preventing this condition. All Protestant physicians should, with the advice and approval of one or two colleagues, empty the uterus before the kidneys become permanently damaged (Catholic physicians are not allowed by their church to sacrifice the ovum in order to save the mother).

NEUROLOGY.

UNDER THE DIRECTION OF CHARLES W. HITCHCOCK, M.D.,
DETROIT, MICH.,
Attending Neurologist to Harper Hospital.

The Successful Management of Neuralgia.

In the *Alienist and Neurologist* for April, 1901, Dr. C. H. Hughes unhesitatingly condemns the surgical treatment of neuralgia as an opprobrium and a reproach to neuriatry, since the neuralgias are generally amenable to other remedies, and the neutropathic nerve state is usually a result and not a cause.

Intractable trigeminal neuralgia is, of course, the *bete noire,* and the extremely radical remedy, extirpation of the Gasserian ganglion, offers at best a doubtful result, and its extreme seriousness will prevent its large application.

Massive doses of strychnine, after the plan of Dana, have proven most effective in some obstinate cases, and should be tried before resort to operative procedure.

Thorough antimalarial, antispecific, and antianemic treatments are also not to be left out of consideration, and the green root tincture of gelsemium and galvanism have also proven efficient adjuncts. Atropine or belladonna, aconite, large doses of quinine, arsenic, large doses of muriate of ammonia (after Anstie's method), strontium, sodium, and ammonium bromide—all have their application and have proven helpful in certain cases.

Locally, menthol, camphor dissolved in sulphuric ether and chloroform, and other anodynes, help to afford relief.

The author aptly says: "Neural metabolism has gone wrong in neuralgia, and metabolism elsewhere; and whether the disease we discover is the result or the cause of neuralgia, or both, the nerve pain must be relieved to give the recuperative powers the best aid and chance."

Objections to the extirpation of the Gasserian ganglion may be briefly summarized:

1. The curability of the disease by medication if rightly and vigorously followed up.

2. Trifacial neuralgia is not a disease exclusively of the ganglion.

3. It is not a disease exclusively confined to the fifth nerve.

4. Medical effect equal to that of the operation can be secured by proper means.

5. Because of the irritation, trophic, or paralytic sequences of this formidable operation.

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ORIGINAL CONTRIBUTIONS.

FOREIGN BODIES IN THE URETHRA AND BLADDER.

BY H. E. W. BARNES, M.D., CRESTON, IOWA.

The literature of foreign bodies in the urethra and bladder, though not voluminous, is at least interesting, and after search of the literature at my command I have unearthed the following strange cases, all of which are more or less analogous to my own:

Dr. Greene, in the *Journal of the American Medical Association* for February, 1900, recites the details of a case where a lead-pencil, six and one-half inches in length, was introduced into the urethra and remained nine days, ulcerating into the left ischio-rectal fossa and producing extensive urinary extravasation throughout the perineal and pubic regions. It was, of course, necessary to resort to operative interference in order to secure the pencil, the point of which was found to lie two inches anterior to the anus.

Morand mentions the case of a man who introduced a long wax taper through the urethra and into the bladder; and White, at the University Hospital, Philadelphia, removed from the bladder, by a median cystotomy, a wax taper that had been introduced for purposes of masturbation.

Gross once discovered three caudal vertebræ of a squirrel in the center of a vesical calculus removed from the bladder of an adult male. It was afterward elicited that the patient had practiced masturbation with the tail of this rodent.

Dorr, in the *British Medical Journal,* reports a case in which a man had passed into his urethra a piece of chewing gum, that required suprapubic cystotomy for its removal three months after its introduction.

Peters, in the *New York Medical Record,* reports the case of a male thirty-five years of age who came to him complaining of retention of urine, which, the patient explained, was due to the presence of chewing gum in the urethra. At the position of the bulb a mass, nodular in form, about an inch in length, could be felt. This was broken up with a sharp uterine curette and found to be composed of chewing gum coated with phosphate of lime. The foreign body had been in the urethra about two months, which accounts for the calcareous deposit.

Morand relates the history of a man sixty-two years of age who introduced into his urethra, for a supposed therapeutic purpose, a sprig of wheat, which slipped from his hold, entered the bladder, and there formed the nucleus of a cluster calculus. Dayot describes a similar formation resulting from the introduction of the stem of a plant.

Ferrilon relates the case of a male of fifty-four who introduced a pencil into his urethra, which remained fifteen days within that canal, passing thence into the bladder. On the twenty-eighth day the patient had a chill, and during the following two days made repeated attempts at breaking the pencil, with the result that each attempt was succeeded by a violent chill; the sufferer's condition being further accompanied by an intense evening fever. On the thirty-third day Ferrilon removed the pencil by operation. Symptoms of perivascular abscess were present at the time of operation, seventeen days after which, and fifty days after introduction of the pencil, the patient died.

Caudmont has recorded the case of a male adult who introduced a pencil-case into his urethra, from whence it passed into his bladder, reposing peacefully within this cavity four years, but with the ultimate violent result of perforation of the bladder and death of the patient.

Poulet mentions the case of a man of seventy-eight within whose bladder a metallic sound had been broken off; the fractured extremity of which, measuring seventeen centimeters in length, subsequently made its exit from the anus of the unfortunate patient, whose recovery followed.

Wheeler reports the case of a male of twenty-one who passed a button-hook, measuring two and one-half inches in length and one-half inch in diameter, into the rectum, from whence it burrowed into the bladder and was subsequently spontaneously ejected from the patient's body.

Whiteside gives the details of the case of a girl of seventeen who introduced into her bladder the handle of a tooth-brush four inches in length, with the result of a subsequent history simulating

pregnancy. On removal the foreign object was found to be deeply incrusted with a calcareous deposit. The patient recovered.

Bigelow reports the case of a woman who habitually introduced hairpins and common pins into her bladder; and Rode has left record of a woman who introduced a hog's penis into her

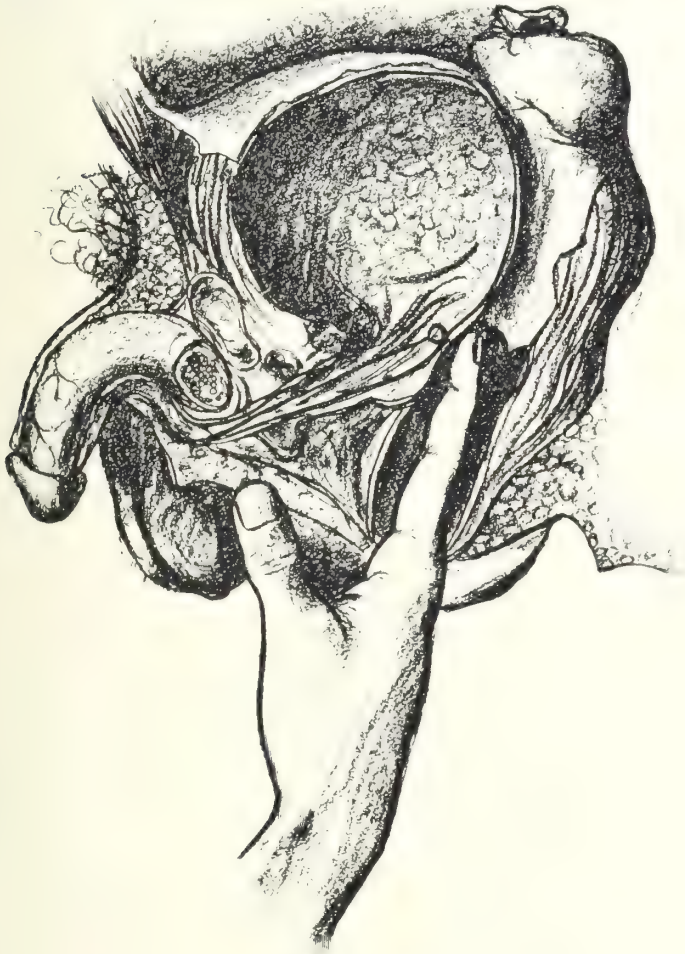

FIG. 1.

urethra, which extraordinary object was removed through an incision into the urethra, the patient dying in five days of septicemia. Peculiar cases are on record of patients having passed hairs in urination, and Hall once removed a bundle of hairs, two inches in length, from the bladder of a woman sixty years of age.

Many of these cases serve to accentuate the importance of

early removal of foreign bodies from the urethra and bladder, the continuance of which within the patient's body for a length of time becomes a serious menace to life. Because of the shameful purpose for which many of the foreign bodies were introduced, the patient has concealed the cause of his suffering until surgical interference could no longer avail in saving life. In my own case, however, it was fortunately true that the patient had introduced the foreign body for an innocent purpose, and for this reason felt no hesitancy in calling at once for professional assistance in its removal. That such foreign bodies should be at once removed passes without comment, I am sure, and it is only to the method of removal, in the case I have to report, that distinct interest or any originality attaches—a simple maneuver by means of which a hat-pin five inches in length was removed, without loss of time, from the bladder and urethra of an adult male, with the result of but a trivial puncture wound of the perineum.

In July, 1899, I was caled to see a large, middle-aged man, who had periodically suffered from a spasmodic stricture of the urethra, and who had been in the habit of relieving this unfortunate condition by introducing head first into the urethra a porcelain-tipped hat-pin, five inches in length, with the usual effect of overcoming the spasmodic contracture and starting the flow of the urine. At the last passage of the hat-pin more force had been required to overcome the resistance than on any previous occasion, and, *mirabile dictu!* the point of the pin escaped his grasp and disappeared. It was about thirty minutes after this that I was called to see him. Upon examination I discovered the point of the pin within the urethra at the junction of the scrotum and penis (as shown in Fig. 1). I then introduced my finger into the rectum, and, by making deep pressure and flexing the patient's thighs, discovered the head of the pin beneath my finger, by pressing that member forcibly upward and forward. With my finger in this position I found that I could move the pin, and at once forced it a short ways down the urethra and succeeded in embedding its sharp point in the wall of the anterior urethra. I now seized the patient's penis in my left hand, drew it upward, and made forcible pressure upon the head of the pin as before, forcing it downward along the urethra. I had the great satisfaction of seeing the point perforate the tissues and emerge from the skin. Seizing the point of the pin with my left hand I drew the pin outward until only the head remained in the urethra (as shown in Fig. 2). I then lowered the point of the pin and pressed upward until the head of the pin, now reversed in direction, escaped from the meatus urinarius (which last maneuver is illustrated by Fig 3).

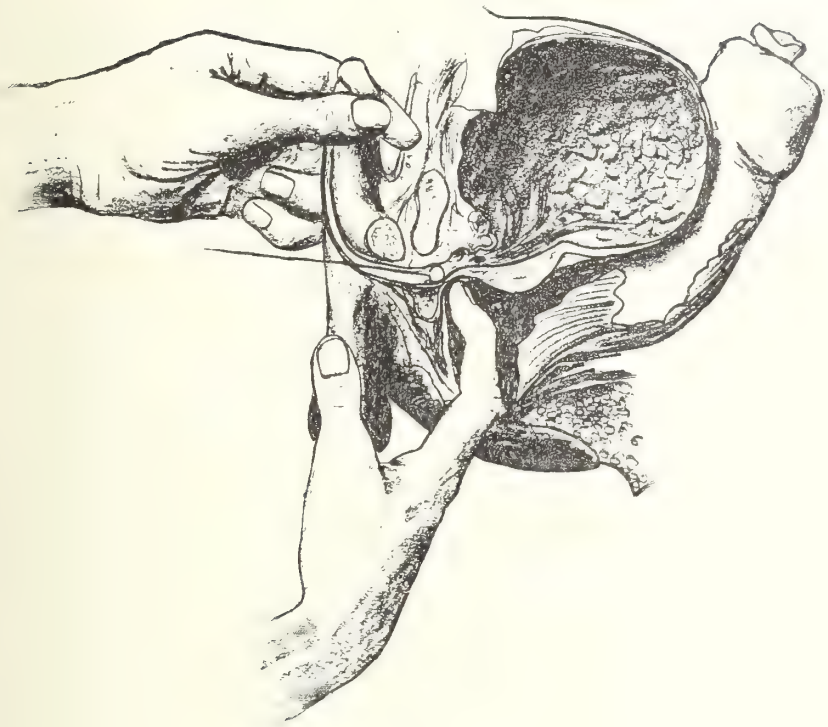

FIG 2

FIG. 3.

It was by this method that a desperate and dangerous condition was promptly relieved, the patient continuing without intermission his usual occupation, the small puncture in the urethra healing rapidly.

I am indebted to Dr. B. F. Gillmor, of Creston, for the drawings which have so materially assisted in the exposition of this interesting case.

DEMENTIA PRAECOX.

BY GERSHOM H. HILL, M.D., INDEPENDENCE, IOWA.

The nineteenth century was the first in the history of the human race in which proper care in hospitals had been given to the insane. Physicians of the present generation realize that rapid strides have been made in the last twenty years in the practice of medicine and of surgery. How many hospitals of various kinds and sizes have recently been built in the United States and in Iowa! How many clean, intelligent, skilful nurses are now found at the bedside of the sick, not only in hospitals and in the homes of the wealthy, but patients are also being thus cared for in villages and in farmhouses! How much more accurate are the diagnosis and the prognosis of the young physician to-day than they were fifty years ago! How often do we hear of surgical interference in medical cases! How proud we are to-day of our success in treating the new-found disease called appendicitis!

In this paper I shall not discuss dementia præcox in detail, nor treat the subject as I would be expected to do in a meeting of alienists, but will preface what little I have to say concerning this newly discovered form of insanity with a review of the classification of cases of mental derangement.

The task of grouping the insane according to kind is undertaken by almost every alienist. Although progress has been made, and certain forms of mental derangement are now fairly well differentiated and agreed upon, yet a nomenclature which will locate every case of insanity and be accepted by every student of psychiatry has not yet been determined.

In glancing over the history of this undertaking we find one author has adopted a threefold grouping of cases according to the departments of the mind—placing in one class cases in which the intellectual or *reasoning* faculties seem to be most unbalanced; putting into the second class those patients whose *feelings* are most disturbed; and into the third class cases in which the most marked symptoms seems to be that of the abolition of *will* power. Another authority concludes that cases should be classified

according to the *causes* which seem to have produced mental derangement, and consequently the different forms of insanity are named alcoholic insanity, puerperal insanity, senile insanity, etc.

The third method of classifying the insane is based on pathological conditions actually found in the post-mortem room, or supposed to exist. The fourth method is that of Pinel, which has been maintained for more than one hundred years, and is still the one most commonly used. According to it, all forms of insanity are grouped by mental symptoms, regardless of causes or of pathological conditions. This manner of classification is convenient and has proved quite satisfactory, because it is simple and at the same time comprehensive. In it there are but three kinds of mental derangement, namely, depression, exaltation, and weakness. The technical names for these *general* forms of insanity are melancholia, mania, and dementia.

In prosecuting the study of insanity more thoroughly—taking into account the causes, certain marked peculiarities in mind or manner, and the termination of the cases—certain *special* forms of insanity have been differentiated and more or less clearly determined by alienists. There are no special forms of melancholia, but in mania there are a few cases which are exceedingly acute, accompanied by extreme excitement, restlessness, confusion of mind, and proneness to speedy death by exhaustion. This special form of mania is called acute delirious mania. Again, there are cases which are marked by one predominating, fixed delusion. This same delusion persists from first to last, and aside from it the mental faculties are not much impaired or very unnatural. The general behavior of the patient is not much disturbed by the delusion, nor is the health affected by it; the reasoning faculties are not impaired, so this special form of insanity is called reasoning mania; primary delusional insanity and paranoia are also synonyms for this type of derangement. Furthermore, there are cases of mania which are caused by the use of stimulants, accompanied by delusions of persecution, and oftentimes by hallucinations of hearing and of taste; so we are beginning to separate from the general term "mania" a form which we call alcoholic insanity.

There is still another special type of mania which is periodic, where the derangement is recovered from, yet is prone to recur. By watching such cases from year to year and throughout life, we find that it is possible to group them, and to discover in them certain common characteristics.

When we come to inquire carefully into the circumstances connected with the third general form of insanity, which is dementia, we find a large group of weak-minded persons who have lost their faculties on account of old age. This special form is properly

called senile dementia. Another large class of weak-minded persons—many of whom are young, and but very few of whom attain to old age—are discovered to have lost their minds to a considerable extent on account of epilepsy. There is a similarity in the characteristics of epileptics and the prognosis is the same, so that this special form of mental impairment is called epileptic dementia. The third special form of dementia, although quite common nowadays, is not so easy to recognize and differentiate. It is called paretic dementia, paresis, and "general paralysis of the insane." Although at the outset emotional disturbance seems to be the most unnatural thing about the case, and early in its history symptoms of excitement and delusions of wealth or of power usually appear, yet after all the faculties are soon completely lost, and the patient becomes a helpless invalid and dies within a few years.

The present century will be marked by a new departure in the study of insanity. Complete histories of all insane persons admitted to hospitals will be secured, and valuable conclusions drawn therefrom. Thorough physical and mental examinations of every patient admitted will be made; careful clinical records kept in each case, not only of the condition of the patient while in the hospital, but an effort will be made from time to time to ascertain the condition of the patient after he has left the hospital, and the information thus obtained will be added to the clinical history on file in the hospital.

In cases of death at the hospital, post-mortem examinations will be made, and full records of the findings placed on file, together with the discoveries made in the pathological laboratory.

Insanity is a hard disease to study in a scientific manner. The family history, early education, and various experiences of the patient must be known in each case. The clinical history of an insane patient is not a matter of a few hours or days, but it is a record of symptoms and changes extending through months, through years, and in many cases to the end of life. Not only are the causes and the symptoms of the disease essential, but also the course it takes, the final termination, the findings in the autopsy room and in the pathological laboratory, are all required in order to reach a conclusion as to the exact form of insanity of the patient. The diseased mind, as well as the healthy one, is a most intricate study. The structure and the functions of the brain are more perplexing to the physiologist than those of any other organ in the body.

There are now six physicians on the staff of the hospital at Independence. They meet for an hour every week-day to hear read the histories of the new patients, and to discuss the charac-

teristics and the physical condition of the patients admitted to, or discharged from, the hospital. Thus we endeavor to make a correct scientific diagnosis and prognosis in every patient treated. The physical condition is first carefully determined, then the mental symptoms are analyzed; thereby we are enabled to make a tentative diagnosis and prognosis in each case at the outset; afterward the changes in the patient, from week to week, from month to month, and from year to year (if the patient remains so long in the institution), are observed and recorded. If the patient dies at the hospital a post-mortem examination is usually made; observations are written down in the post-mortem room, afterward copied and filed as a part of the record in each case; besides, the pathological materials thus obtained are promptly, systematically, and skilfully studied in the laboratory. The pathologist of the hospital is required to make the acquaintance of every patient admitted to the institution, since it is not a part of his duty to take charge of any wards or to give treatment to patients. He is notified when they are likely to be discharged from the hospital or to die, so that he may acquire an exact knowledge of the clinical symptoms and conditions which exist at the time the connection of the patient with the hospital is terminated.

In our attempt to study mental derangements scientifically we are using the method of Kraeplin as a guide. There are a few hospitals in New England in which insanity is now being studied in the same manner. Of course, causes are searched for, and symptoms are carefully observed; but what has heretofore been an after consideration is now regarded as of paramount importance in determining the form of insanity which each patient is suffering from—namely, *the prognosis*. The first question to be answered is, Can the mind of the patient be restored to soundness, or can it not? Will treatment and time result in complete cure, or will the restoration of the mind be only partial—a case of improvement, but not of cure? If the patient is discharged from the hospital does he go home sound, to stay, or is he likely sooner or later to return to the hospital? These questions bring out and emphasize the principle that when (besides the symptoms of the present attack) we take into account the whole course of the disease throughout the patient's lifetime, together with the final outcome, we are neither bound to name it melancholia at one time because there is depression, nor at another time to call it mania because there is excitement. The true criterion is the essential tendency of the disease as a whole to recovery or to dementia. We look from the outset for the prognosis. We search the symptom-complex for the differential traits that point to recovery with a possible recurrence of derangement, or to dementia with possible remissions.

With such a conception of the nature, and natural history so to speak, of any organic form of mental disease, there is a better understanding of what may be done to promote recovery, and efforts are stimulated to overcome conditions that do not necessarily denote permanent deterioration, as they superficially appear to do. It is in such considerations as these that hope of progress lies. The criterion is whether or not in any case there is a tendency to dementia. The acute psychoses—the forms that are with most reason termed symptomatic and functional—do not tend characteristically to dementia. Recurring attacks throughout a lifetime do not produce dementia, except sometimes, perhaps, in the slighter degrees in the later years of life, or after having many attacks. There are cases of confusion of mind, a condition that may be rapidly produced by strongly exhausting influences, including the effects of mental stress, which always tend to recovery. One of the conclusions which is being reached by alienists at the present time is that one kind of insanity does not run into another kind; in other words, in order to determine the form of insanity which a patient has, one must know if possible the cause, the age at which the first symptoms of mental alienation were observed, and all the important characteristics in the case, from the outset up to the date when the diagnosis and the prognosis are attempted. One patient can have only one kind of insanity—no matter how he behaves or talks, or how many attacks he has, or how long he lives in a deranged condition. The result of this classification is to simplify and narrow the nomenclature; at the same time very many perplexing cases are found in which long and careful study are required before the form of insanity can be certainly and permanently determined.

The first division of the subject is twofold. One class includes the symptomatic and functional cases which are likely to recover, and the other class all the cases which are tending to dementia. In the first group are ordinary cases of insanity, which exhibit symptoms of depression in spirits during the premonitory stage. These are followed, sooner or later, with maniacal symptoms of restlessness, talkativeness and excitement; followed by self-control, composure, and recovery. There is also a group of cases of pure mania due to anemia, neurasthenia, to poor health, or generally to disease in some other organ except the brain. If the physical ailments which cause the low spirits and distressing delusions can be cured, then the mental faculties are completely restored, because the brain itself is not diseased. There is still another class, opposite in mental manifestations, namely, mania which is not due to brain disease which results in composure of mind and often in speedy recovery.

The second class contains all the cases of insanity which are unpromising from the outset. It includes senile dementia, paranoia, general paralysis, and dementia præcox. Now, dementia præcox, which is the subject of this paper, is a form of mental derangement which occurs early in life. A boy only fourteen years of age was admitted to the hospital at Independence who probably is suffering from this kind of insanity, and consequently is not likely to recover. The history of this case states that the patient had attended school regularly until within a few weeks before coming to the hospital; that he succeeded in his studies; and that his school work did not tax his mental faculties. The return of physician in this case declares that the mental derangement had only continued one week before the patient was sent to the hospital; but the history of the case given by one of the parents to the physicians at the hospital leads us to conclude that there were well marked symptoms of mental derangement manifested a month or two before insanity was recognized by the attending physician. Almost all the cases of dementia præcox develop between the ages of fifteen and twenty-five years; a few begin prior to the period just named, and exceptional cases may be found in the thirties and even in the forties of life. In many cases of dementia præcox there are no well marked symptoms of mental derangement; the only evidence of insanity is a weakening of the mental faculties; the mind loses its elasticity. The natural disposition of a young person to be energetic, ambitious, and to acquire knowledge easily, disappears. In this simple form of dementia præcox there does not seem to be much constitutional disturbance; no marked impairment of the health is observed; and, in fact, the mental derangement itself, if noticed, will not be recognized as serious in its nature, because it develops insidiously, and because it is presumed by parents and other acquaintances to be but a slight and temporary indisposition. These cases of dementia præcox are the ones which may not be sent to a hospital for the insane, but are regarded and cared for at home as cases of imbecility; but they are different from imbeciles, in that they begin life well endowed, but at an early age lose to a certain extent their reasoning faculties. These are the unfortunate ones who can remain at home and do chores, assisting parents and other relatives about the home, but who are not competent to assume self-support, or to win their way in the world among strangers. In hospitals, in asylums, and on poor farms they prove to be the most industrious and useful inmates. When watched and kindly cared for they lead a harmless and comfortable life, and to a considerable extent are able to earn their own living. But there is another group of cases of dementia præcox which are very much like cases of ordinary insanity. They

may be melancholic at first and maniacal afterward; but a thorough investigation of such cases brings the conclusion that they will degenerate into a condition of dementia which was formerly called by alienists secondary dementia—because the stupid symptoms were not the first ones, but the mental impairment was preceded by a stage of depression or by a stage of excitement or by both. A careful analytic study is required to differentiate these cases of dementia præcox from cases in which the disturbances of mind are due to functional conditions of the body and which can be cured.

The third and last class of cases of dementia præcox is called katatonia. Katatonia is a form of insanity named and first described by Kahlbaum in 1874, but not yet generally adopted by alienists. The word means variation in tone, or in tension, and is applied to cases of derangement which are more or less cataleptic or hysterical, or pseudoepileptic or ecstatic in manner. Kraeplin finds that deranged persons in whom these spasmodic muscular symptoms are found are young, and that the deterioration in mind is not wholly and permanently relieved by treatment. There are also other permanent characteristics found in these cases of katatonia, so that this recent German author considers this form of mental derangement as entitled to a separate group, as the third kind of dementia præcox. In addition to the physical symptoms of katatonia, there is a prominent mental symptom often found which is called negativism. The patient is disinclined to talk or to work. There is inertia both of body and of mind. The patient is not contrary or vicious on account of any motive for being so, but on account of the acute condition of the mind which causes him to be disinclined to act. Some patients will not eat much, perhaps not at all; if fed at the hands of a nurse or a relative, food is taken slowly and disinterestedly and to a limited extent. The patient may not be inclined to go to bed at night, or to undress himself, or in the morning to get out of bed or to dress himself without assistance. Such cases may appear to be listless and indifferent; but after this stage in the development of the disease has passed it is found that the patient was conscious of what transpired about him when he seemed to be utterly indifferent, and he can even describe correctly what was said and done in his presence. Some of these cases will lie in bed for weeks and even months without speaking, and without helping themselves to any considerable extent. The eyes may have a staring expression, in which the pupils are dilated, or the eyes may be kept closed, with the lids and lashes more or less trembling or quivering. The physical condition of the patient is variable—sometimes excited; again, despondent or stupid; sometimes restless and disorderly; at other times

standing or sitting like a piece of statuary; occasionally positively cataleptic; and yet, within a few days, all these symptoms, both muscular and mental, may suddenly disappear, and the patient seem to be himself again. After many long months of changing symptoms and careless habits the young patient may get well enough to go to work, or even to go home.

Much space would be required to delineate all the characteristics which are observed in cases of katatonia in its various stages. Some patients never rally from a condition of stupidity and helplessness, but in a short time are relieved of complete dementia by death from pneumonia, tuberculosis, or some other intercurrent disease.

To recapitulate: Dementia præcox is an incurable form of insanity; it occurs almost exclusively among *young* people, a majority of the cases being less than twenty-five years of age. The mental failure is regarded as a deterioration of the structure and vitality of the brain, rather than a degenerative process, such as causes senile dementia. One group of cases of dementia præcox is characterized by simple dementia, in which there is weakness of mind, without any attendant excitement or delusions, or demonstrations of mind or body. The second class of cases of dementia præcox shows signs of melancholia or of mania, exhibiting delusions and possible excitement. This class of cases it is difficult in some stages to differentiate from some forms of insanity curable in character. The third type of dementia præcox is that of katatonia, in which there may be cataleptic manifestations. Undoubtedly this form of insanity, which I have undertaken to describe in this paper, will be modified in time: on account of continued observation of cases, in and out of the hospitals; on account of a sifting process; and on account of a more general agreement of alienists as to the comprehensiveness which shall be given this class of cases.

REPORT OF SURGICAL CASES.*

BY WILLIAM H. WATHEN, A.M., M.D., LL.D.,

Professor of Obstetrics, Abdominal Surgery and Gynecology, in the Kentucky School of Medicine, etc., Louisville, Ky.

APPENDICITIS.

The first specimen is an appendix removed two weeks ago, and as the history of the case preceding the operation, and since, is more familiar to the family physician, Dr. Ewing Marshall, it will be given by him:

*Delivered before the Louisville Clinical Society.

"This patient had his first attack, so far as he can remember, during the winter of 1890-1, when he was attending school in Danville, Kentucky. He thinks the attacks were due to this trouble, as the pain he suffered then was similar, though not so severe, to the attacks when I have been present—since December, 1899, when I first saw him professionally. Even in the beginning they lasted a day, and sometimes two days. He had these slight attacks off and on every six months or so, thinking they were due to passing a stone. He had his first real bad attack during the summer of 1899, and as I said above, I saw him first in December, 1899.

"In the first two attacks in which I saw him I must confess to doing something very reprehensible and extremely careless, something that I rarely do, and that is to take the patient's diagnosis without an examination and apply treatment to fit the patient's idea. I have rarely done it where I did not have cause afterward to regret it. I examined his abdomen carefully at the beginning of his last bad attack, which was on January 21, 1901. As soon as I laid my hand on his abdomen I recognized the condition, as there was not only the board-like resistance, but also a well marked tumor which could be easily outlined. I was heartily ashamed of myself for having neglected to examine his abdomen before. I at once notified his family, and said that if the symptoms did not rapidly subside an operation would have to be performed.

"The 21st, 22d, and 23d days of January were very anxious ones to me, for I felt that had I examined his abdomen in the prior attacks I would have advised an operation between the attacks. As soon as the trouble subsided I laid the gravity of the case before the patient and pleaded for an operation, which he promised; but his spirit failed him until he sought me for another cause, and then I told him in the most positive way that he must submit to an operation or seek some other doctor, as I was no longer willing to shoulder the responsibility. He then agreed, and Dr. Wathen operated upon him March 12, 1901."

When this patient was examined by me there was a very distinct enlargement in the immediate vicinity of the McBurney point, and the tenderness was greatest in intensity at this point. When the abdomen was opened in the right linea semilunaris the omentum was found extensively adherent over a large surface of the cæcum and lower part of the ascending colon, covering all the appendix. When the adhesions were separated the appendix was found turned to the right side of the cæcum, pointing directly upward. The adhesions to the posterior part of the cavity were separated and the appendix ligated and removed.

As may be seen by examining the appendix, the adhesions

were universal; further, it will be observed that the mucosa is universally thickened, and when stripped of its muscularis is as large as an average appendix. The muscularis also is universally thickened, showing that the case was chronic with repeated attacks, each one causing more and more involvement of the mucosa and parenchymatous structures; so it was an appendicitis not confined to the mucosa, but involving the muscular structures likewise. From the condition of the appendix I feel sure there would not have been many more attacks before the patient would have had obstruction of the appendix at its attachment to the bowel, and gangrene would have followed.

Now, I show with this another specimen removed some time ago where the inflammation was confined to the mucosa, the muscularis not being involved to any extent perceptible. You can see by an examination that there is a marked difference by comparing the two specimens—the one operated on March 12 having existed ten years, the other perhaps three years, and in the latter the adhesions were not extensive.

TUBO-OVARIAN ABSCESS.

Here is a beautiful little specimen of tubo-ovarian abscess recently removed, where the tube runs so intricately into the ovary that you cannot find where one begins and the other ends. It was a chronic tubo-ovarian abscess, as shown by the intense toughness of the adhesions where they were separated in its removal from the broad ligament. From the opposite side of the same person was removed a pus-tube, which is likewise shown to be chronic by the character of the adhesions. The tube can be entered from the uterine end, and I have made a small opening so that it can be entered likewise from the terminal extremity, where pus can be pressed out. This is a case where the inflammation in the tube was such as to bring the fimbriæ within the tube, thereby closing the mouth of the tube without the necessity of attachment to some adjacent structure.

This woman had been suffering with these troubles for five or six years, following gonorrheal infection. I also show you another specimen which was removed from the broad ligament upon the side from which this pus-tube came; it is composed of a number of small intraligamentous cysts.

INTRALIGAMENTOUS CYST.

This insignificant little specimen illustrates the conservatism of vaginal surgery in some cases of tumors arising in the pelvic cavity. It is either an intraligamentous or parovarian cyst about the

size of a hen's egg, which had fallen down into Douglas's pouch and caused the woman very decided local trouble and a great deal of reflex disturbance.

An incision was made through Douglas's pouch this morning, the tumor was drawn down and opened, a ligature of catgut was thrown above, the tumor was removed, the pedicle returned, and the opening closed by suturing the vaginal wall to the peritoneum posteriorly and to the neck of the uterus anteriorly, leaving no open connective tissue spaces. To-morrow morning this woman will be permitted to get out of bed and sit up if she desires, whereas the ordinary method would have been a laparotomy, the woman remaining in bed three weeks and wearing a binder for six months or a year. This is the kind of tumor that may develop, if let alone, to an enormous size.

UTERINE MYOMATA.

Four weeks ago to-day Dr. E. C. Dudley, of Chicago, being my guest, operated at the Kentucky School of Medicine for the removal of two uterine myomata from two separate women.

This specimen is the first one removed, a typical uterine myoma with a well developed submucous myoma, and also upon one side a hematoma, the contents of which are often very poisonous, with the tube entirely occluded containing pus; the other tube was not destroyed. This tumor was removed by the abdominal method, leaving the neck of the uterus, but suturing the peritoneum over above the broad ligaments and over the cervix so that no connective tissue spaces were left. The abdomen was closed by buried catgut sutures, the first layer including the peritoneum, the next the fascia and muscle, the next the fat, and the last the integument, no suture being exposed. No ligatures were applied to the broad ligaments or to the arteries until after the tumor had been removed, clamps being used during this time. Dr. Dudley was assisted in this operation by Dr. John R. Wathen.

Immediately afterward, assisted by Dr. F. W. Samuel, he operated for the removal of this large myoma, which was three times as large when it was removed at it now appears. It was perfectly smooth when it came out of the abdomen, and had the appearance of a pregnant uterus at about six months. It came up so easily and so readily out of the abdomen that its removal required but little effort and was rapidly accomplished. The ovaries and tubes, being healthy, were not disturbed. After the tumor was removed and the abdomen closed after the same fashion as the preceding case, and the same plan of using clamps during the operation and ligating afterward, closing up by suture the broad ligament and connective tissue spaces over the neck of the

womb, this growth was incised and a quart of liquid came out, and immediately it was observed that there was a mass of malignant degeneration in its center. Almost half the solid tumor was a malignant mass, no evidence of which could be seen in the perfectly smooth and symmetrical fibroid tumor, nor was there any suspicion of malignancy from the appearance of the woman, but during the last two months before the operation the tumor had increased to more than double its former size, which aroused a suspicion of malignancy.

Both patients recovered and have now returned to their homes.

EXTRA-UTERINE (OVARIAN) PREGNANCY.

Here is a specimen which was removed four weeks ago from a lady twenty-six years of age, the mother of two children. She came to my office the Friday preceding the operation for the purpose of having a pessary adjusted. In an examination I found a tumor larger than my fist in the left broad ligament. She then gave this history: About the last week in December, 1900, she suffered intense pain in her pelvis, and especially in the region of her bladder. She could not pass her water and had to be given an injection of morphine. She recovered from that, had no especial shock, but from the 6th to the 9th of January, 1901, she began bleeding, and there was continued hemorrhage from the uterus up to the time she consulted me four weeks ago last Friday. At the time pain was noted the last week in December she had missed her period two weeks, so I suppose she was pregnant about six weeks at that time.

She was removed to the infirmary and operated upon by the abdominal method. The tumor in the left side was found to be one-third larger than one's fist, and the most beautiful specimen of extra-uterine ovarian pregnancy that I have ever seen. Here is the tube, ovary, and part of the broad ligament in which the pregnancy was located. Here is the blood-clot and the embryo that were in the ovary. There was about an ounce of liquid in the cavity. The embryo is as perfectly preserved as though it had never been disturbed; it is about three-quarters of an inch in length. Here is the lining membrane of the amniotic sac. Sections have been made from two sides of this specimen to detect what kind of tissue surrounded this impregnation, and it is clearly shown that it was surrounded upon all sides by ovarian tissue, so that this is one of the most perfectly developed ovarian pregnancies that is to-day upon record. It seems that pregnancy must have occurred within the ovum in the Graafian follicle, and that the ovum never got out of the follicle, developing near the mouth of

the tube, which with that wise conservatism of nature adhered over the outer surface and gave additional strength to the ovarian covering. As it grew larger it of course tore open the vessels and tissues and caused hemorrhage.

There have been as perfect cases as this reported, with the exception that they have not been positively demonstrated to be extra-uterine pregnancies because there have been no embryos found—the embryos have been missing; hence, unless you can positively demonstrate chorionic tissue you cannot say positively that it is extra-uterine pregnancy. But here is a case where we can demonstrate the presence of a perfect embryo with liquid contained in its amniotic sac, and with ovarian stroma upon all parts surrounding this large blood-clot. So I pronounce this as the most perfectly developed specimen of ovarian pregnancy now upon record.

The Italian Minister of the Interior has placed the sum of 5000 lire at the disposal of the Society for the Study of Malaria as a contribution toward the expense of the prophylactic measures which they intend to adopt during the approaching malarial season; and the King himself has set a good example to all large landowners in malarious districts by providing a sum of 10,000 lire to be employed for a similar purpose on his estate of Castel Porzano, where it will be remembered Dr. Sambon and Dr. Low carried out their successful experiment last year. The society has provided stations for study in the provinces of Udine, Verona, Vicenza, Padua, Ravenna, Pisa, Basilicata, and Siracusa, in addition to those already established in the provinces of Rome, Milan, Cremona, Mantua, Ferrara, Foggia, and Lecce. A special effort is to be made for the protection of the agricultural population against malaria. A prophylactic experiment on a large scale will be made along the Emilian coast; and, indeed, in all the malarial districts the authorities are exerting themselves in preparing for a vigorous antimalaria campaign during the coming season. In the city, and especially in the Campagna of Grosseto, a careful series of prophylactic experiments from which valuable results are expected has been in progress for some time. The measure of success which has already attended the efforts of the society has led some foreign governments, including those of Spain and Portugal, to apply to it for information as to the best methods of carrying out an efficient prophylaxis against malaria.—*Lancet.*

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

All communications regarding papers, reports, etc., should be addressed to the Editor of THE MEDICAL AGE, P. O. Box 484, Detroit, Mich.

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EDITORIAL ARTICLES.

A THEORY OF ALOPECIA.

A somewhat novel theory of the origin of alopecia is advanced in an able paper contributed to the *Medical Record* by Dr. Delos L. Parker, of Detroit. Some years ago, the author tells us, he advanced the theory that this disease, commonly met with in male adults, is caused by a poisonous material circulating in the general blood-current. There was, of course, nothing particularly new in this suggestion, which was in accordance with accepted pathology. He has now more closely defined the nature of this autoinfection and claims it to be the result of a substance absorbed by the blood from the air-cells of the lungs, where it is elaborated by decomposition of the organic material present in respired air.

It was probably the fact that alopecia is much more commonly present in male adults than in female adults that led the author to the idea that in this difference between male and female respiration might be found an explanation of the predisposition. The fact that in the form of breathing known as the superior costal type the upper ribs take an active part in the process of expanding the chest, and that in that form of respiration known as the inferior costal type the lower ribs and diaphragm maintain the greater part of this function, has led the author to say that air is received or expelled by any part of the lungs only as there is at the same time expansion or contraction of the chest wall overlying the part in question; and conversely, when there is no movement of a portion of the chest wall there is no air received or expelled by the air-cells of the lungs lying beneath the portion of chest wall under consideration. It is therefore the contention of the author that when this latter condition has prevailed for some time decomposition takes place in certain organic matter contained in respired air, and that as this retrograde change goes on a product is elaborated, which being

taken up by the blood exerts a poisonous action upon the hair, and thus becomes the cause of alopecia. This, the writer maintains, is the reason why adult women do not suffer from alopecia. It is also the reason why males afflicted by tuberculosis are often conspicuous by the luxuriance of their hair growth. It also explains the alopecia of the aged, the senile changes in the cartilages of the ribs preventing expansion of the upper lung. It does not seem to explain, however, why we get acute alopecia so often in scarlet fever, smallpox, and typhoid, but never in pneumonia; nor does it explain why such a toxic substance entering the general circulation does not cause all the hair to fall out. The pubic hair should suffer as much as that of the head.

Dr. Parker proceeded to apply his theory in the laboratory, and furnishes us with photographs of a large number of animals in which he had injected water which had previously been contaminated by respired air. The pictures are very striking, and apparently in every case were confirmatory of the theory, namely, that in this water some substance existed capable of exercising a poisonous effect upon the hair. The substance has not been isolated, but lest it should escape the author has thought it wise to name it, and has selected "trichotoxicon" as the term which best suits his purpose. The word means hair-poison, and is probably so named because the hair has nothing to do with producing the poison. Lung poison would better denote its origin.

It will be interesting to note how this theory stands the assaults of opposed theorizers. If it be proved that the substance which the author calls trichotoxicon exists, it may be that an important contribution has been made to the knowledge of the etiology of alopecia.

EDITORIAL NOTES.

A Medical Martyr.

It is gratifying to think that the services to humanity are to be recognized of Jesse W. Lazear, of the United States army, who lost his eye in establishing a scientific fact of great practical importance. Dr. Lazear lost his eye in the proof of the fact that yellow fever is transmitted from man to man by the mosquito. When the time shall come that preventable diseases are prevented, it is to be hoped these services to mankind will find remembrance in the hearts and minds of those benefited.

ITEMS AND NOTES.

THE plague has reappeared in Honolulu.

A CREMATORY will soon be built in Kalamazoo, Michigan.

AN epidemic of epizootic has attacked the horses of New York City.

THE certified death of a leper is reported from San Antonio, Texas.

A DECREE has just been issued making vaccination compulsory throughout Cuba.

FIRE recently destroyed the building of the College of Physicians and Surgeons, Chicago.

THE University of Pavia recently appointed a young Italian woman, Dr. Rina Monti, as lecturer in anatomy.

DR. PAUL F. MUNDE has resigned the chair of gynecology in Dartmouth College, which he has held for the past twenty years.

ACCORDING to the latest governmental statistics, each physician in the United States has 655 persons to look to for his support.

OVER $15,000 has been subscribed to defray the cost of making the London Congress of Tuberculosis, which is to be held in that city July 23 to 26, a success.

THE Mississippi Valley Medical Association will hold its annual meeting on September 12, 13, and 14, at the Hotel Victory, Put-in-Bay Island, Lake Erie, Ohio.

THE American Medico-Psychologic Association held its fifty-seventh annual meeting in Milwaukee, Wis., June 11 to 14 inclusive. It is the oldest association in this country.

THE American representative at the British Congress on Tuberculosis, which will be held in London during the week of July 22, will be Dr. Allen T. Haight, of Chicago.

TEN THOUSAND DOLLARS was recently appropriated for a mineral survey of the State of Texas, to be conducted under the supervision of the regents of the University of Texas.

Fifty thousand dollars will be donated by G. F. Peabody for the building and furnishing of an operating-room in the Long Island College Hospital as a memorial to the late Dr. A. J. C. Skene.

For the past two or three years a number of German universities have established what are known as "medical extension classes," which serve the same purpose as the postgraduate schools of this country.

The Commissioner of the State Board of Health in New York, Dr. Daniel Lewis, is going to take a census of the tuberculous individuals in New York State. The census will be carried on by means of the physicians of the State.

It has been recommended by an officer of the Marine Hospital Service at Havana that the quarantine on passengers from Cuba to all ports north of Norfolk be raised, owing to the fact that yellow fever practically exists no longer in Cuba.

The Secretary of State of North Carolina recently refused a charter to a Christian science college on the ground that the institution had not demonstrated in its petition that it would conform to the legislative policy of the State in regard to the treatment of disease.

At the recent meeting at Niagara Falls, New York, of the American Orthopedic Association, the following officers were elected: President, H. A. Wilson; first vice-president, W. J. Taylor; second vice-president, G. G. Davis; secretary, J. Ridlon; treasurer, E. D. Brackett.

The third meeting of the French National Periodical Congress of Gynecology, Obstetrics, and Pediatrics will be held this year at Nantes under the general presidency of Dr. Sevestre, of Paris, who will also preside over the Section of Pediatrics. Dr. Segond, of Paris, will be president of the section of gynecology, and Professor Queirel, of Marseilles, of that of obstetrics.

Near Matteawan, N. Y., a farmer captured a barefooted man and held him for the $25 reward which is a standing offer for the detention of escaped lunatics from the State Hospital for the Insane. Persons in that vicinity are usually on the lookout for queer-looking pedestrians, but in this case the captive was able to prove his identity, and explained his shoelessness by saying that he practiced the Kneipp cure. He was advised to wear shoes in order to avoid recapture.

Suit for damages was recently brought against the New York Metropolitan Street Railway Company, says the *Medical Record*, by a man who claims to have been thrown to the ground and severely injured by an electric shock received while stepping on the slot of the underground trolley road on Second Avenue. The plaintiff's contention is that the ground was partly covered with snow, and that the electric current leaked and thus injured him.

Surgeon-General Wyman, of the Marine Hospital Service, recently issued a general circular to medical officers of that service, calling special attention to the importance of insects as conveyers of disease. He directs that the officers shall place mosquito netting over the beds of patients with communicable disease, and that all hospitals are to be thoroughly protected by fly screens at all openings, particular attention being paid to the kitchen and dining-room.

There is a village in Austria, near the Adriatic, where the nudity cure is practiced. The debilitated, neurasthenics, the tired, etc., can go there and, in the costume of Adam, expose their individuals to the air, the sun's rays, or the rain. Thickets are carefully arranged so as to cut off all view of the patients; a hat and short trunks only are allowed; the sexes are separated. Baths, massage, gymnastics, and games are indulged in, and a strict vegetarian diet completes the treatment.

According to the *Medical Record*, Mr. J. Pierpont Morgan has offered to give three of the five new buildings to be erected for the use of the medical department of Harvard University. The cost of the buildings will be about $1,000,000. The university was recently presented with the use of a tract of twenty acres by Messrs. Henry and Frank Higginson, who have agreed to hold it in trust until such time as the University can purchase it at the present cost price of half a million dollars. Mr. Morgan's gift, it is announced, is for the prosecution of "applied biological research." One of the five buildings planned for the medical school will be a hospital.

The Fifth International Congress of Criminal Anthropology will be held in Amsterdam from the 9th to the 14th of September. The principal questions to be discussed are: First, the anatomical and physiological character of criminals, descriptive studies; secondly, criminal psychology and psychopathology, criminals and lunatics, theoretical considerations and practical measures; thirdly, criminal anthropology in its legal and administrative application, principles to be followed, preventive measures, protective mea-

sures, penalties; fourthly, criminal sociology, economic causes of crime, criminality and socialism; fifthly, criminal anthropology and ethnology compared. Special questions, such as alcoholism, sexuality, juvenile criminality, senile criminality, hypnotism, criminal psychology in literature, etc., will also be considered.

SOME months ago, says the *Medical Record*, a committee consisting of Dr. Reed, president of the American Medical Association; Dr. Bowditch, president of the Congress of American Physicians and Surgeons; Dr. Weir, president of the New York Academy of Medicine; Dr. Welch, of Johns Hopkins University, and Dr. A. Jacobi, of New York, secretary, published an appeal to the American medical profession requesting contributions to the Virchow fund, which was established ten years ago in honor of Rudolf Virchow's seventieth birthday, which was reached October 13, 1891. The fund was created for the purpose of fostering biological, anthropological, and general medical research. A large German committee, with national committees formed all over the globe, has undertaken to increase this fund in honor of Virchow's coming eightieth birthday. The contributions must be sent to Germany on the first of September in order to be received by the Central Committee in due time. Therefore the American committee hopes that intending contributors will communicate with it before that date.

THE Medical Chamber of Berlin and the Province of Brandenburg has issued an interesting report on the subject of the income of the medical profession residing in that district. The Chamber is authorized to fix an annual sum, to be paid by every medical man, for the expenses of the Chamber and the support of distressed members of the profession. It had been decided that a uniform rate of 10 marks ($2.50) should be paid, and an additional sum by those earning more than 5000 marks ($1250). The Chamber has been informed by the income tax officials that of 1946 Berlin medical men under the jurisdiction of the Chamber, 529 earned from 900 to 3000 marks (from $225 to $750), 273 from 3000 to 5000 marks (from $750 to $1250), and 785 more than 5000 marks ($1250), the largest income amounting to 295,000 marks ($73,750). It appeared that 107 medical men had no taxable income at all; the income of 250 could not as yet be ascertained. In the other towns of the province the proportions were similar to those found in Berlin, so that four per cent of all the medical men had no taxable income, twenty-six per cent had an income from 900 to 3000 marks, seventeen per cent 3000 to 5000 marks, and forty per cent more than 5000 marks. In thirteen per cent no reliable information could be obtained.—*Lancet*.

NEW PUBLICATIONS.

ACUTE CONTAGIOUS DISEASES OF CHILDHOOD.

Dr. Hatfield has given us a succinct and clear account of the diseases of childhood. Especial pains have been taken to embody the views of later French and German pediatricians. The book is quite worth the reading.

The Acute Contagious Diseases of Childhood. By Marcus P. Hatfield, A.M., M.D., Professor Emeritus of Diseases of Children, Northwestern University Medical School; Professor of Diseases of Children, Chicago Clinical School; Attending Physician, Wesley Hospital. Pages, 142. Price, $1.00 net. Chicago: G. P. Engelhard & Co., 1901.

LABORATORY WORK IN HISTOLOGY.

The third edition, revised and enlarged, of this most useful of laboratory guides has just been issued. The author has divided his book into two parts, the first being entirely given up to microscopic technique. In this part a compilation of the latest and best methods for laboratory work is given. The second part, which contains outlines for class-work in the laboratory, is complete in every respect. A number of blank pages are found in this section, upon which drawings of the tissues may be made by the student. The book is one which will commend itself highly to all laboratory teachers, and be found by students a great improvement over the ordinary text-book used in laboratories.

Laboratory Work in Histology. By G. Carl Huber, M.D., Junior Professor of Anatomy and Director of the Histological Laboratory, University of Michigan. Ann Arbor, Michigan: Geo. Wahr, Publisher.

CLINICAL PATHOLOGY OF THE BLOOD.

The rapid progress of hematology and the application of the science to the problems of disease make a new work upon the subject indispensable from time to time. The present treatise includes all that has recently been added to the knowledge of the subject. The manual is arranged in convenient form. A large number of plates and engravings elucidate the text, and the manual must partly be conceded to be the most recent compendium of the subject accessible to the student or practitioner.

Clinical Pathology of the Blood. A Treatise on the General Principles and Special Applications of Hematology. By James Ewing, A.M., M.D. Illustrated with Thirty Engravings, and Fourteen Colored Plates Drawn by the Author. Philadelphia and New York: Lea Brothers & Co., 1901.

ORTHOPEDIC SURGERY.

In his treatise on orthopedic surgery the author has endeavored to outline very carefully the methods of examination and to indicate fully the principles of treatment. The advances perpetually being made in the mechanical treatment of deformities are accurately exemplified in the author's descriptions. This work is thoroughly modern in tone and spirit, and gives evidence that it has been compiled by a master of the subject of which it treats.

A Treatise on Orthopedic Surgery. By Royal Whitman, M.D. Illustrated with Four Hundred and Forty-seven Engravings. Philadelphia and New York: Lea Brothers & Co., 1901.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Surgical Hints.

The July number of the *International Journal of Surgery* contains the following surgical hints:

The ether of chloride of ethyl spray will sometimes prove quite useful in stopping severe bleeding from cancerous or other ulcerations in which the hemorrhage is rather of an interstitial than an arterial character.

Never give an emetic in order to recover a foreign body that has passed into the stomach. If it is small enough it will always be passed in the course of a few days, while if too large for this vomiting would be a dangerous and useless thing to bring about.

An attack of hysteria simulating unconsciousness in a woman may be aborted by the surgeon taking up a pair of scissors and regretfully announcing that he will have to cut all the patient's hair off in order to make applications to her head. It is doubtful whether this bluff has ever been known to fail.

When feeling for fluctuation in any part of the body that is covered by heavy muscular structures, place the hands along the long axis of the muscular fibers, and never across them. The latter position would certainly deceive the observer into thinking that fluctuation is present, as may easily be seen in the case of the large anterior muscles of the thigh.

In furuncles and carbuncles of the upper lip it is especially important to operate promptly, usually by thorough excision under an anesthetic. The location of the disease, in such cases, makes them peculiarly dangerous owing to the possibility of the occurrence of rapid thrombosis of the facial veins, extending to the cerebral sinuses. This, in turn, is apt to cause fatal pyemia.

Diaphragmatic Hernia.

As diaphragmatic herniæ can very rarely be diagnosed during life, Widerman (*British Medical Journal*, June 29, 1901) relates the case of a patient, aged forty-eight, who was admitted into hospital on February 2 on account of hematemesis. In 1875, 1878, 1888, and 1899 he had had attacks of pleurisy, one of which was attended with hemorrhage. The man looked fairly well, had no

cough, and no increased respirations. An examination of the thorax revealed slightly diminished movements of the left lower region; the left side measured from one-fifth and one-half inch less than the right side. On the right side the percussion note was good; on the left side, down to the level of the second rib, it was also good; from the second and the fourth rib "boxy" resonance was present, while below the percussion became more "boxy" until it eventually was tympanitic. Behind there was dulness from the ninth dorsal vertebra downward to the left side and near the spine. The breath sounds were everywhere vesicular. In the left lower portion of the thorax were intestinal and "metallic" sounds, hissing, splashing, and gurgling, indicating air and fluid in a large smooth-walled cavity. Succussion phenomenon was elicited. The heart was found to be displaced to the right and very movable, the apex beat being behind the sternum or more to the right, even as far as the midclavicular line, while the rest of the organ was lying well to the right. Abdominal examination showed that the organs were naturally placed. The diagnosis was confirmed by Roentgen photographs, one of which demonstrated a sound, loaded with shot, which had been passed into the stomach; the stomach was in the thoracic cavity. He considered the question of eventratio diaphragmatica, in which the diaphragm is pouched and pressed upward, but he thinks that this can be excluded from etiological reasons.

The Present Mortality from Gall-stone Operations.

Prof. Hans Kehr (*Münch. Med. Woch.*, No. 23, 1901) reviews his 585 operations for gall-stones and submits some interesting conclusions. Aside from the cases complicated by carcinoma or diffuse cholangitis (429 operations with 16 deaths) the mortality is 3.7 per cent, and in his operations of the last year (60) only 1.7 per cent. The open method of treating the hepatic duct and tamponing he believes has lessened the mortality of late years. In general, the mortality to-day is very small, if the pathological changes have not gone too far, but the mortality is high when complications have set in, as carcinoma and suppurating cholangitis. In his last one hundred operations 40 per cent of the men died, and only 8 per cent of the women. Carcinoma of the head of the pancreas and peritonitis with adhesions are more frequent in men, probably due to traumatic influences from which women are exempt. As a rule he finds women stand a laparotomy better than men. Sheuer estimates that 41.5 per cent are cured by internal treatment; Naunyn places the number at 40 per cent; and Furbinger says that about 50 per cent of these patients leave Carlsbad

uncured. Surgeons on the other hand cure 95 to 98 per cent of all cases. He believes an experienced surgeon is a much better diagnostician than the best practitioner, as the latter seldom profits by the best teaching material, namely, the surgical autopsy *in vivo*.

The Pathogenesis of Tumors.

C. P. White (*Journal of Pathology and Bacteriology*, June, 1901) says that tumors, as a rule, take their origin from normal tissue or cells. Occasionally, however, they may start from one of Cohnheim's rudiments. The extrinsic causes of tumor formation, as far as they are known, do not differ essentially from the extrinsic causes of inflammation, etc. In the case of tumors, however, we generally cannot determine the extrinsic causes, and on the views propounded this is intelligible, since, the parts being then in unstable equilibrium, a very slight cause would suffice to disturb the position. The essential difference between the progressive and reparative processes lies in the condition of the body. In the one case the parts are in unstable, in the other they are in stable, equilibrium. It is not possible, at the present day, to say in what this difference actually consists. Tumors grow by centrifugal growth. In the case of carcinoma it is possible that centripetal growth may take a small part in the formation of the tumor. The writer says that treatment must be directed, not only locally to the tumor itself, but also to the general condition of the patient.

Cerebral Abscesses Caused by Metastasis from the Bronchial Glands.

Schlagenhaufer, of Vienna (*Wien. Klin. Woch.*, No. 23, 1901), reports three autopsies on young women who had died after an acute illness of four to six days, suggesting suppurative meningitis, and in whom multiple abscesses were found in the brain. In two cases perforation had caused suppurative meningitis. In each case the primary focus was discovered in a suppurating lymph gland below the bifurcation of the trachea and near the right bronchus. The bronchial gland communicated either with the bronchus or esophagus or with both. The primary abscess was tubercular in all three cases. In two there were slight pulmonary tubercular lesions, and in one the lungs were sound. Two other similar cases have been reported; so we have an explanation of the so-called idiopathic cerebral abscess or cryptogenetic septicopyemia. The bronchial and tracheal lymph glands should be

examined in all such cases. These also help to confirm Ribbet's theory that the primary localization of pulmonary tuberculosis is not in the lungs but in the peritracheal glands.

MEDICINE.

Non-bacterial Pus.

At a recent meeting of the "Gesellschaft der Aerzte," Kreiblich (*Medical Press,* June 19, 1901) read a long paper on his experiments with various poisons in the production of pus. He said the specific origin of pus had received a rude shock from a teacher's point of view when it was announced that communis coli and typhus bacilli produced pus. Hueter's aphorism, that pus cannot be present without the presence of an organism, can no longer be admitted at the present time, as there are too many instances of chemical poison having produced pus when no organism can be present. Kobert first proved this with sterilized catgut. Painting with tincture of iodine or rubbing in mercury will produce the same thing without a single microorganism being found with the assistance of the microscope or in cultures.

To confirm these facts, Kreiblich has been recently experimenting with croton oil in the same direction. He applied this to the arm, where it produced follicular abscesses containing thick yellow pus. In twenty cases examined with the usual stains, no bacteria could be found with the microscope. Fifty agar plates were prepared from the pustules, and only five were found not to be sterile; the latter may, therefore, be presumed to have been infected from the periphery.

He found the same results in examining the pus of herpes zoster and eczematous bullæ. Sections of these were made in the same way, and stained according to Weigert's method, with perfectly negative results.

These results are not contrary to our reasoning, when we remember that it is the toxin, itself a chemical compound, that is the potent factor in the production of pus. There is one noteworthy point to be observed, viz., that the progressive tendency to spread is not present in the toxic agent, although both forms can pass from a serous to a purulent condition without any further new infection; hence it seems that the difference is quantitative and not qualitative. In the skin this transition can be very well illustrated when the fine inflamed point or vesicle first pours out serum, which is soon after converted into pus. Hypopyon of the eye is

another proof of the non-bacterial process when no ulcer of the cornea is present, and when it simply depends on a form of chemotaxis.

The Blood-coagulating Principle of a Secretion of the Skin.

At the meeting of the Paris Society of Biology, held June 1, M. Millan (*Lancet,* June 22, 1901) laid before the members the explanation of a fact which he had reported at the previous meeting, namely, the increased coagulability of the blood at the end of a hemorrhage. It depends upon the secretion of a coagulating substance by the skin. The cells containing this substance are laid open by the puncture and thus allow their contents to escape. A demonstrative proof of this fact is afforded by ascitic fluid, which, although it does not coagulate spontaneously, yet does so rapidly on the addition of a small quantity of watery extract of skin. From these facts it would appear that the technique employed for clinical experiments upon the coagulability of blood is coarse and not to be depended upon. The results are in terms of the coagulating power of the skin, and not in those of the coagulability of the blood. In hemorrhagic diseases there exists together with the blood defect a tissue defect as well, which may possibly be improved by appropriate serum treatment (opotherapy). Hemophilia especially may be divided into two classes—a local "tissue hemophilia," which is by far the kind most frequently met with, and a general hemophilia having its origin in some condition of the blood.

Cardiac Hypertrophy and Atrophy.

A number of investigations have recently been made by John Gutch (*Journal of Pathology and Bacteriology,* June, 1901) to determine whether hypertrophy of the heart is brought about by (1) a numerical increase in the muscle fibers; (2) increase in size of the individual muscle fibers; (3) or a combination of the first and second. The writer says that from his work he believes the increase in size of the heart is largely due to hypertrophy of the individual muscle fibers. The increase in breadth of the fibers is not sufficient to account for the whole increase in weight of the heart. But some hypertrophied hearts, especially those of interstitial nephritis, are more difficult to tease out than is the normal muscle. This probably depends upon an increase of interstitial tissue, which can also be seen in teased-out specimens. And it is at least possible that along with an increase in breadth there is an

increase in length. These factors are sufficient to account for the whole increase in weight, without supposing any numerical hyperplasia of fibers to take place; while, on the other hand, no direct evidence of such hyperplasia, such as karyomitosis, has ever been brought forward.

On the Occurrence of a Pulmonary Tuberculosis in Diabetic Subjects.

T. N. Kelynack (*Medical Press and Circular,* June 26, 1901) says that phthisis has long been recognized as a common and most important complication of diabetes mellitus. Although the great frequency of tuberculosis in diabetics is now generally admitted, it is remarkable how few are the available statistics based on the results of pathological examination. The writer says that seventy-two per cent of diabetic patients are attacked by a pulmonary tuberculosis, and thirty-nine per cent destroyed by it. He, however, points out that these figures apply only to severe cases, and are never reached outside of hospitals. The writer says that perhaps the most practical deduction to be made is that one should insure, as far as may be, for all diabetic patients, a non-tuberculous environment.

Experimental Yellow Fever.

From a number of experiments made by Walter Reed, assisted by James Carroll and A. Agramonte (*American Medicine,* July 6, 1901), the conclusion was reached that the period of incubation of yellow fever occasionally exceeds the quarantine period of five days, and that although exceptional this must not be left out of consideration; and that the observations made by these experimenters emphasize anew the importance of the recognition by the profession of mild and very mild cases of yellow fever. Undoubtedly the cause of the epidemic of yellow fever is to be found in the introduction into a community of cases that are not suspected to be yellow fever.

PATHOLOGY AND BACTERIOLOGY.

UNDER THE DIRECTION OF THADDEUS WALKER, M.D.,

Microscopist to Harper Hospital, Detroit.

Intestinal Necrosis of Unknown Etiology.

L. Bornhaupt (*Deut. Med. Woch.,* No. 24, 1901) reports the case of a twenty-two-year-old vigorous man who was suddenly

seized with pain in the abdomen with vomiting and constipation. Purgatives did not act; the pulse was good; the abdomen was flat and not distended. On the second day the patient being much worse was brought to the hospital. The pulse became more feeble, the face cyanotic, and the respiration labored. Death occurred one hour after admittance.

The autopsy revealed an area of necrosis on the ileum, a short distance above the cæcum and extending upward about four inches. On the lower border there was a sharp line of demarcation, but upward the necrosis merged into the deeply congested mucosa. The right inguinal ring was dilated. All organs were much congested, and the right pleural cavity contained a blood-clot the size of two fists, which compressed the lungs against the spinal column. The author believes that the necrosis might have been due to a hernia which subsequently reduced itself, while the cause of death was hemorrhage into the pleural cavity. The possibility of embolism of the mesenteric vessels must also be considered, as this produces conditions in the intestines closely resembling those of occlusion.

THERAPEUTICS.

The Therapeutic Value of Adrenalin Chloride.

The following conclusions have been reached by Dudley S. Reynolds (*Philadelphia Medical Journal*, June 29, 1901) from an experience based upon 1222 experiments, in regard to the therapeutic value of adrenalin chloride:

1. It is a powerful hemostatic, and acts promptly, generally within one minute from the time it is applied locally to mucous surfaces.

2. Its effects persist from twenty minutes to four hours.

3. It promptly relieves ciliary pain in all forms of keratitis, iritis, and even the cyclitis of glaucoma.

4. It reduces ocular tension in glaucoma, and apparently prevents hemorrhage in iridectomy.

5. It promptly clears up interstitial opacities of the cornea, following contusions, and seems to modify favorably the opacities of punctate keratitis in cases of syphilitic iritis.

6. It will, in many cases, so reduce the swelling in the tear passage as to allow a stream of fluid to pass from Anel's syringe through the duct, without the use of a probe. In an old purulent dacryocystitis, the pus being pressed out with the finger through the tear sac, about two minims of adrenalin was passed in with the Anel syringe. Five minutes later a charge of sodium chloride

solution passed readily through the duct into the nose. Repeating this procedure daily, prompt recovery was secured without the introduction of the probe. In a great variety of tinnitus aurium, prompt and sometimes lasting benefit follows the introduction of a drop of adrenalin solution through the Eustachian catheter, blown into the tympanic cavity. A number of cases of tinnitus without serious impairment of hearing have been permanently relieved by two or three applications of the adrenalin through the catheter.

7. In all forms of swelling in the lining of the nose, prompt relief follows the application of four or five minims of the adrenalin solution sprayed into the passage. In this way the superior crypts may readily be opened, and medicated fluids sprayed into the passage, or other applications made, where access is otherwise impossible.

It renders operations in the nasal passages, and elsewhere, nearly or quite bloodless, and does not, as some claim, predispose to secondary hemorrhage, but has a contrary effect. The 1-to-1000 solution of adrenalin in sodium chloride may be relied upon to relieve any case of epistaxis.

In cases of secondary hemorrhage, after operations in the nasal cavities or tonsils, an application of adrenalin solution on a cotton mop, pressed upon the bleeding surface, proves promptly efficient as a hemostatic.

The adrenalin solutions are, in every sense of the word, superior to any preparation of the suprarenal extract, or of the desiccated glands, which I have been able to procure, and I think the world is deeply indebted to Takamine for his discovery.

Gastric Sedatives.

Professor Riegel (*Medical Press,* June 19, 1901) has just issued a report of experiments on the secretions of the stomach with various drugs, which he has carried out on gastrofistulous dogs, and which he has now verified on man. The preparations of belladonna are most effectual for checking the flow. Atropine is the sovereign remedy for checking acidity and muscular activity. Morphine, on the other hand, which was at one time considered an inhibitor of hydrochloric acid secretion, is now proved to be an active stimulant of this product, and is contraindicated in all anodynes given for the relief of pain due to the hypersecretion of acids, while belladonna preparations are potent in their action, particularly atropine, which will relieve this in from a quarter to half an hour. By the paralyzing action of the drug on the muscle of the stomach spasm of the pylorus is avoided. In cases of atony of the stomach, however, morphine will always be found invaluable.

RHINOLOGY AND LARYNGOLOGY.

UNDER THE DIRECTION OF WADSWORTH WARREN, M.D.

Laryngeal Arthritis.

According to the experience of Escat of Toulouse, and other authors (*Arch. Internat. de Laryngol.*, vol. xiv, No. 1), the symptoms which lead to a diagnosis of acute rheumatic inflammation of the cricoarytenoid articulation are as follows: The presence or history of a recent acute catarrhal condition of the pharynx or larynx (this sign may be absent in subacute cases); fever; a history of a preceding or a synchronous attack of extralaryngeal polyarthritis; painful deglutition; aphonia; difficult respiration (where the affection is bilateral); painful phonation; painful coughing; slight secretion and redness at the entrance of the larynx; acute pain on pressure of the posterior borders of the thyroid cartilages; swelling of the arytenoid cartilage apparent on laryngoscopic examination; disturbance of the motions of the vocal cords; a higher position of the vocal cord of the affected side above the horizontal position.

The diagnosis of arthritis of the cricothyroid articulation is determined by the sudden occurrence of aphonia; the appearance of the usual symptoms of catarrhal pharyngopharyngitis; pain on moving the vocal cords; laryngoscopic appearances analogous to those which accompany paralysis of the external laryngeal nerve; pain produced by pressure upon the cricothyroid articulation at the level of the lower horns of the thyroid cartilage; pain also when the thyroid and cricoid cartilages crowd toward each other.

Escat recommends for the treatment in the acute stage: salicylates, salol, salophen, and vesicatories. For the condition when chronic he recommends potassium iodide and ignipuncture; for ankylosis, dilatation by means of Coustade's or Schroetter's dilators, and finally massage and electricity.

The Lymphatic System of Larynx and Trachea.

Most, of Breslau (*Deutsche Zeit. f. Chir.*, Bd. 57, 1900), on the basis of certain pathological and injection-preparations, arrives at the conclusion that the laryngeal mucous membrane possesses a moderately rich lymphatic system which divides itself into two definite areas, one above the true vocal cords and one beneath, and that the union of these two areas occurs on the posterior laryngeal wall. The superior area of lymph vessels is in close relation with the deep cervical lymphatic vessels. The lower is connected with one or two perilaryngeal and peritracheal glands. The metastases

of laryngeal carcinoma occur chiefly in the deep cervical lymph glands, and may also occur in connection with the other area in the perilaryngeal and peritracheal glands.

OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILMAN, M.D.,

Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

Massage in Diseases of the Eye.

Prof. A. Elschnig (*Wiener Medicinische Presse*, 1901, No. 18) states that massage as a treatment in diseases of the eye is not yet commonly enough known. In illustrating the action of massage in trachoma the author exhibited a number of cases. He divides them into two classes. The first were old cases with marked thickening of the tarsi, papillary hypertrophy, beginning cicatricial changes in the conjunctiva, and pannus. After four to six weeks' treatment massage made a vast improvement in these cases. The pannus disappeared, as well as the secretion and granulations. To the second category belonged those cases in which the trachomatous inflammation had run its full course. The conjunctiva was completely changed to scar tissue with deep infiltration of the cornea. No other treatment did so much for these cases. In acute cases of conjunctivitis massage will often cut short the attack and prevent its return.

Elschnig believes that massage will always occupy a lasting place as a remedy in trachoma. In these cases the massage must be applied direct to the affected mucous membrane, not omitting the deeper parts. It should be applied energetically, but care should be exercised not to tear the superficial layers of the conjunctiva. The author uses a 1:4000 solution of hydrarg. oxycyanat. as an application with the massage, and has seen some brilliant results follow; but he insists that the mechanical and not the medicinal action does the good work. He introduces a glass-rod with absorbent cotton wrapped around one end, first dipping this in the sublimate solution or in vaselin, under the upper eyelid, and with the index-finger and thumb of the other hand massages the parts with considerable pressure. The time of the sittings usually occupies five minutes. Only at the first treatment does he use a two-percent solution of cocaine, as then there is marked reaction following the massage. The massage is applied daily at first, then every

second or third day, and later on allowing a greater length of time between the visits.

In phlyctenular conjunctivitis Elschnig practices massage combined with the "yellow salve." He has seen the synechia of iritis loosen after its application. In short, the author recommends massage for almost all the diseases that attack the eye and its appendages.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,

Lecturer on Dermatology, Detroit College of Medicine.

A Case of Possible Multiple Chancre and Chancre a Distance.

At the 292d meeting of the New York Dermatological Society, reported in the *Journal of Cutaneous and Genito-Urinary Diseases* for June, 1901, Dr. H. H. Whitehouse presented the following case:

The patient was a man, thirty-five years of age, who presented what were apparently two indurated chancres in close opposition on the prepuce behind the corona, and another, simultaneously inoculated, on the middle of the flexor surface of the left little finger. The latter was not indurated, was flat, about three-eighths of an inch in diameter, with a bright-red granulating surface, and bleeding very easily. They were all devoid of pain, and not sensitive to touch. They had begun eight weeks previously, ten days after coitus, and, as far as could be learned, all had developed at or about the same time. There was no eruption upon the skin, and the patient had seen none, nor were there any constitutional symptoms. The inguinal glands of both sides were enlarged, and the left epitrochlear gland was as large as a good-sized pea and was very hard. The left axilla contained a gland as large as the end of the thumb, and several smaller ones, all of which were hard, freely movable, and separated one from the other. The lymphatic glands in the other regions were normal. The man presented scars in the left inguinal region as a result of an operation three months previously for a non-suppurating adenitis, but he denied having had sores of any kind on the penis prior to those present. His last gonorrhea had been fifteen years ago.

In closing the discussion on the case, Dr. Whitehouse said that the induration at the prepuce was as typical as is ordinarily seen in chancre of that locality. There had been no particular induration

of the lesion on the finger, which was not unusual in this situation. Hutchinson says there might be a chancre on the finger without ulceration—simply a dusty spot lasting for a time, and followed by the usual manifestations of syphilis.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

The Influence of Pregnancy and Parturition on the Phthisical Powers, and the Therapeutical Value of the Induction of Abortion.

At a recent meeting of the Berlin Society für Innere Medizin, Hr. Kaminer (*Medical Press,* June 26, 1901) read a paper under the above title.

After enumerating all the recognized as well as all the disputed indications for the induction of abortion, he went on to speak of tuberculosis. It is recognized that tuberculosis gets worse during pregnancy, and Gerhardt, in view of the great loss to the phthisical patient from the advent of a pregnancy, has held its interruption to be justifiable. Maraghano was equally enthusiastic; he desired the interruption of the pregnancy in all phthisical women, and, according to him, one should not wait until danger actually threatened. Patients, after the emptying of the uterus, quickly improve if the disease has not advanced too far. Kaminer does not like Maraghano's expression, "clinical improvement." Improvement is determined by increased weight and the other usual symptoms, but cure can only be considered when there are no more rales in the chest, not even on repeated examination, and this is the only criterion of recovery. The tubercle bacilli are not always evacuated, and their liability remains, according to Cornet, from two to three years.

Kaminer has collected fifty cases of pregnancy in tuberculous women. In thirty-three of them the condition became worse in consequence, and in eight only was the pregnancy without influence on the disease; in nine of the cases no certain judgment could be formed. The nausea and loss of appetite made the condition worse, and the vomiting tended to facilitate hemoptysis. Then

there was the forcing upward of the diaphragm, the retraction of the lungs, the breathing; these had a disturbing influence on the pulmonary circulation and the heart. The subjective and objective symptoms were most marked in the early months of the pregnancy; later on the system accommodated itself to the change. Then parturition came on with its sudden changes in the respiration and blood circulation, which for the tuberculous women were pregnant with danger.

Of twenty-three tuberculous women observed by the speaker, fourteen died in connection with their lying-in, seven of them during the first days of the puerpery, or sixty-one per cent. The body, weakened by the disease and by the pregnancy, was unable to undergo the fatigue of parturition. He has also observed metastatic tuberculosis in three cases as a result of parturition. We are bound, he said, to seek a remedy for these dangers, which threaten mostly the poorer class of women, and the remedy we have at hand is the artificial induction of abortion, but we ought to be guided by the interests of the mother alone, and not by any other views. He has considered only artificial induction of abortion for three reasons: (1) The influence of pregnancy is the feature in the early months; (2) the procedure is not so formidable as induction of premature labor; and (3) the shorter time the pregnancy lasts the less is its harmful influence. In all his cases he has not had a failure. His list consists of fifteen cases, and two of spontaneous abortion. One woman died fourteen, and another six, months after the operation. These belonged to a group of five in whom the disease progressed. In the remaining ten the disease had not progressed, the women remained tolerably well, and they were able to work. Recovery did not take place, and it could not be expected, but the arrest of the progress of the disease was a great thing. The induction should be well weighed in any case, even if one is not justified in practicing it at all. Only such cases are suitable for induction of abortion as promise some lasting improvement from it, particularly those cases in which a determination is evident to the senses, and those in whom the first symptoms of the disease show themselves after the commencement of the pregnancy. In the case of multiparæ the condition during previous pregnancies must be taken into account.

It must be made known that under all circumstances it is a misfortune for a phthisical woman to become pregnant; it is the duty of the physician, therefore, to drawn the attention of any phthisical woman becoming so to the threatening dangers.

Instrumental Perforation of the Uterus.

F. Schenk (*Münch. Med. Woch.*, May 28, 1901) reports the case of a woman thirty-eight years old, who had borne nine children within twelve years, on whom an operation for a laceration from the last childbirth was begun without chloroform. The uterus was first washed out with a bichloride solution. Then a sound was introduced nearly eight inches without meeting the least resistance. Further sounding gave the same result. Patient became pale, perspiration standing out on face, and she complained of feeling sick. Chloroform was at once administered, and the peritoneal cavity opened, when three perforations were found. The uterine wall was so soft and friable that it was very difficult to stitch up the openings; otherwise the uterus seemed normal. The cause of the friability of muscle is not clear, there being no atrophy, anemia, or tuberculosis which underlie these cases. The short time between births (nine in twelve years) might account for the abnormal condition of the uterine wall.

NEUROLOGY.

UNDER THE DIRECTION OF CHARLES W. HITCHCOCK, M.D.,
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Attending Neurologist to Harper Hospital.

Mental Diseases of Childhood.

W. B. Noyes (*New York Medical Journal*, June 29, 1901) says that of genuine acute psychoses occurring at the period of puberty, the following may be mentioned: Melancholia, either simple, passive, or active, with excitement or stupor; mania, which may be simple, irritable, or of the nature of katatonia; mental confusion; hallucinatory madness, hallucinations being possible even in a young child, because sensory impressions become early fixed.

The following progressive psychoses may also occur: Dementia of puberty; simple precocious dementia; and very rarely general paresis.

Of the psychoses resulting from mental degeneration there are: Paranoia, which is very rare because delusions cannot appear

in a child until systematized concepts or logical thought begin; periodic insanity, intermittent or circular, which is more common; kleptomania and dipsomania; sexual aberration; impulsive insanity; imperative conceptions, suicidal or homicidal; moral insanity.

There are also the following combined psychoses or neuropsychoses: Neurasthenia, more especially cerebral neurasthenia; hypochondria, most commonly of a sexual nature; hysterical insanity; choreiform insanity (the mental equivalent of chorea); epilepsy occurring as a chronic psychosis or as a spasmodic dementia, or an acute psychosis as the psychical equivalent of epilepsy.

The writer says that insanity is rare before adolescence, but that the less pronounced psychical disturbances that occur in young children are often the first manifestation of a train of symptoms that are to end only at the development some years later of one of the definite clinical forms of adult insanity. There is no sharp dividing line between the symptoms of a neuropathic child and a psychopathic adult. Symptoms and diseases of a mental nature are better understood by one who has made himself thoroughly acquainted with the special physiology and psychology of a child or adult than by one who limits his knowledge to the elaborate classification of the clinical forms of insanity met with in the text-books.

Mercurial Acute Polyneuritis.

Spitzer (*Deut. Zeit. f. Nervenheilkunde,* Bd. xix, Heft 2-4) says that if we study the literature of mercurial polyneuritis we find all agree that both experimentally and clinically an acute polyneuritis is possible, but indisputable cases are rare. The author cites a positive case, a syphilitic with a fresh exanthema, who during antisyphilitic treatment (twenty-two inunctions of three grammes unguentum cinereum) began to have severe and continued pains in the lower extremities which upon pressure were worse. Pupil symptoms were wanting, as well as Romberg's phenomena; the tendon reflexes were exaggerated; bowels and bladder normal. After the prompt stopping of the inunctions the pains at once ceased, while the syphilitic signs remained prominent. This circumstance, as well as the fact that the urine of the patient contained mercury during the neuritis, and the presence at the same time of other symptoms of mercurial intoxication, made the diagnosis of mercurial neuritis very probable.

THE MEDICAL AGE

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ORIGINAL CONTRIBUTIONS.

SOME SURGICAL CASES.*

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CHOLECYSTOTOMY FOR THE REMOVAL OF STONES IN THE GALL-BLADDER.

The first case I wish to exhibit this afternoon is a patient upon whom we operated a few days ago, a diagnosis of gall-stones having been made in the clinic by one of the advisory staff. The clinical history was somewhat obscure, and yet a careful examination of the antecedents of the patient and a thorough physical examination satisfied the consultant as well as myself that it was in all probability a case of gall-stones, of eight years' standing, with repeated attacks. However, only on one occasion, as the history shows, were there indications of jaundice or of obstruction to the outflow of bile. We had reason to assume that we would, in all probability, find in this instance a contracted gall-bladder. We were unable through the intact abdominal wall to palpate the gall-bladder, and it is well known clinically that in cases in which repeated attacks occur, without obstruction to the common or cystic duct, the gall-bladder in consequence of exaggerated physiological function, prolonged for years, becomes contracted or greatly diminished in size. We therefore expected to find a contracted gall-bladder, and a stone in it, or perhaps a number of stones. We performed the operation last Friday. I made the usual incision, parallel with the costal arch directly over the gall-

*A surgical clinic, held at Rush Medical College.

bladder, taking the cartilage of the eighth rib as a central point. On opening the abdominal cavity I found the gall-bladder very much contracted laterally, somewhat elongated, and in palpating it detected a row of gall-stones. The last one of the row, toward the hilus of the liver, was low down. I could move the stones in the gall-bladder very readily backward and forward, but the last stone near the hilus of the liver was immovable. I therefore concluded that possibly this stone occupied the cystic duct. I made taxis, trying to displace the stone from the cystic duct into the gall-bladder, but failed. I then opened the gall-bladder and removed eight gall-stones, all of them faceted, resembling each other very much in size. They were all of unusual size. They were easily removed. I then attempted to dilate the contracted cystic duct. Through the stricture I could detect a stone in the cystic duct by the use of the probe. I finally incised the gall-bladder to introduce my index-finger, and felt the strictured part of the cystic duct, and through the minute opening felt the gall-stone. I attempted to dilate the stricture with forceps, making a number of attempts to do so, but failed to dilate it sufficiently to enable me to deliver the impacted gall-stone. There was only one alternative left, and that was to incise the cystic duct, an operation attended with considerable difficulty owing to the deep location of the site of operation. I made an incision in the cystic duct parallel with its long axis, which was very small, relying on dilatation increasing the size of the opening sufficiently, through which I could extract the stone. The visceral incision was dilated to a sufficient extent to enable me to extract the stone through the opening. I found one of the largest gall-stones in this set impacted in the cystic duct. I then sutured the visceral opening with two rows of sutures, the first row including all the tunics of the duct minus the peritoneal covering, using catgut for the deep sutures. The first row of buried sutures was covered with serous sutures of fine silk, with which the deep row of sutures was safely buried. I sutured the gall-bladder to the parietal peritoneum, inserted a large drain, and closed the external wound up to the point of drainage.

I will pass these stones around for your inspection and examination. They are very interesting specimens, in that they had been in the gall-bladder for seven or eight years. All of them were distinctly faceted, and we have now reason to believe that the clinical symptoms were produced largely, if not entirely, by the gall-stone encysted in the cystic duct, and the remaining gall-stones probably produced no clinical symptoms. The colicky pains were doubtless due almost exclusively to the presence of one of the stones in the cystic duct.

There is one feature to which I desire to refer particularly,

after having removed the dressing for the first time, and that is the absence of bile. I informed you at the time of the operation that I found a well defined cicatricial stricture on the gall-bladder side of the encysted stone. I have now reason to believe that there is probably a stricture of considerable extent on the opposite side, which accounts to-day for the absence of bile in the dressings. It is possible that the cystic duct is completely obliterated. If so, at some future time it may become necessary to extirpate the gall-bladder. You will remember that we performed two distinct operations, namely, cholecystotomy for the purpose of removing the stones in the gall-bladder, and a choledochotomy for the removal of the encysted stone in the cystic duct. The patient has had no serious untoward symptoms since the operation, and there is every prospect that she will make a speedy recovery.

UNILATERAL OOPHORECTOMY AND VENTROFIXATION FOR RETROVERSION OF THE UTERUS.

The next case I show you is one upon whom we performed unilateral oophorectomy and ventrofixation for retroversion of the uterus. I found in this instance not only complete retroversion of the uterus, but evidences of diffuse pelvic inflammation in the form of extensive adhesions involving both ovaries and the opposite surface of the uterus. I took special pains to fix the uterus in its normal position in such a way that there would be absolutely no possibility of its becoming redisplaced; that is, after the removal of the diseased ovary on the left side I anchored the stump to the abdominal wall and fixed the fundus of the uterus against the abdominal wall above the bladder by two rows of sutures—Czerny sutures and the Kelly suture. The anterior surface of the uterus was sutured to the parietal peritoneum from one cornu of the uterus to the other, while the posterior surface was included by two seizures in one silk suture. At the same time we included the margin of the external incision minus the skin, so that the body of the uterus now rests between two rows of sutures. There will be no possibility of separation of the fundus of the uterus from the location which it now occupies. The wound has healed, as you will notice, by primary intention throughout. We will reseal the wound to-day, reapply a similar dressing, and postpone the removal of the stitches for at least another week.

OSTEOMYELITIS INVOLVING THE METACARPAL BONE OF THE MIDDLE FINGER.

This is the patient upon whom we operated a week ago to-day for a limited central osteomyelitis involving the metacarpal bone

of the middle finger. I will remove the dressing to-day for the first time. The disease was characterized by intense pain which was referred to the site of the infection, the central osteomyelitis giving rise to considerable swelling outside of the bone; and skiagraphy came in this instance to our aid in not only making a pathological but a very accurate anatomical diagnosis. The skiagraph that has been passed around shows near the lower articular end of the metacarpal bone, corresponding to the epiphyseal line, a light spot, which indicates the exact location of the suppurating focus. We suspected in this case a tubercular infection, and we had every reason to believe so from the clinical history of the case. However, the age of the patient, as I informed you at the time, spoke against such a diagnosis, and we found on opening the bone with a small gouge a small cavity in the center of the bone occupied by two or three drops of creamy pus. We made a culture at the time, but I have not yet learned the result. I hope to be able to report it to you at the next clinic. I am satisfied, however, that the culture will show the staphylococcus pyogenes aureus or albus, a microbe which so often gives rise to a limited osteomyelitis. As I predicted at the time, the patient was relieved promptly immediately after the operation, because we succeeded in removing the cause of pain—tension. The patient has not suffered since the operation, and I will remove to-day the iodoform gauze drain for the first time. You will note that there is absolutely no indication of suppuration. The wound has healed by primary intention, which is largely due to the thorough mechanical removal of the infected tissue by the use of chisel and sharp spoon, followed by very energetic chemical disinfection of the osteomyelitic cavity. I shall ask the assistant to dress the wound, after the removal of the drain, in the usual manner, and immobilize the hand upon a well fitting anterior splint so as to secure for the hand, and particularly for the finger corresponding with the metacarpal bone, a condition of rest.

HYDROCELE.

This is the case of hydrocele that was operated upon last Thursday by the radical method. I will ask the assistant to remove the dressing to-day for the purpose of inspecting the present condition of the operation wound. You will remember that I performed in this instance a modification of Volkmann's operation—that is, I laid open the sac from end to end, which gave me an opportunity to inspect the condition of the tunica vaginalis, and particularly that of the testis. Finding everything satisfactory, the cavity was carefully tamponed with one

strip of iodoform gauze, and we took the necessary care to bring the gauze in contact with every vestige of the surface of the tunica vaginalis. That is an important point in the technique of this operation. You will observe to-day that the foreign aseptic substance covers every particle of the tunica vaginalis testis. We are in the habit of removing the packing at the end of five or six days, but a long experience has revealed the fact that unless it is allowed to remain a sufficient length of time occasionally relapse will follow. I shall therefore postpone the removal of the iodoform gauze tampon until the latter part of the week. After having made an incision into the tunica vaginalis, the tunica vaginalis was sutured to the skin with a continuous suture of catgut, and after burying the catgut the approximation sutures were inserted, three or four in number, for the purpose of diminishing the incision to the desired extent—that is, I only left sufficient space through which I could bring out the iodoform gauze tampon. One suture remains in place, which will be tied after the removal of the iodoform gauze packing, constituting, as it does, a secondary suture. You will notice that there is very little swelling, no edema, no signs of inflammation. The slight swelling is due entirely to the process of regeneration or tissue proliferation which has been incited by the presence of the foreign aseptic substance in the serous cavity. We will reapply the dressing; dress the scrotum in the elevated position to favor venous return to guard against edema that otherwise might likely occur with the scrotum in the dependent position.

EXTENSIVE VARICOCELE.

I would like to show you this patient a week after operation. It was one of very extensive varicocele. Note the appearance of the scrotum to-day. There is absolutely no edema, no swelling. The transverse wound still remains hermetically sealed with collodion crust, and you will observe particularly the decided shortening of the scrotum on the side operated upon, which is due to the method of suturing the incision transversely instead of vertically. There are no subjective symptoms in this case worth mentioning. The only thing I find objectively at the point of resection is a slight induration marking the exact location of the veins, which were sutured together, so as to restore the continuity of the veins. We shall permit the iodoform collodion crust to remain for three or four days longer, when it, as well as the sutures, will be removed and the line of incision again sealed with collodion.

UNUNITED FRACTURE OF THE CLAVICLE.

This patient was operated on a week ago to-day for ununited fracture of the clavicle. We will remove the dressing at this time for the purpose of giving us an opportunity of inspecting the wound. The patient has had very little pain indeed since the operation. We have removed the fixation dressing, and I will now remove the dressing. I can show you this large wound, which was the seat of decided instrumental manipulation incident to isolation, vivifying, and suturing of the fragments, it having healed throughout beautifully by primary intention. There is no deformity at the site of operation, which is very satisfactory evidence that the sutures so far have done their duty, that the fragments still remain in accurate apposition, and that in the usual course of time we may look confidently for a restoration of the continuity of the clavicle by the formation of bony callus. If this does not take place I shall be disappointed, and in that event we shall attribute the second non-union entirely to the absence of the intrinsic capacity of the fractured bone to produce callus. A week has elapsed since the operation; the wound has healed, hence I shall ask the assistant to remove all the deep sutures, permitting the horsehair stitches to remain in place, and again immobilize the arm and forearm in the usual position—that is, by treating the clavicle in the same manner mechanically as we would a case of recent fracture.

TWO CASES OF FRACTURE OF THE OLECRANON PROCESS.

I want to show you a case of fracture of the olecranon process. The patient was admitted to the hospital some two or three weeks after the accident occurred. The other case is a recent one, the injury having been sustained by the patient last evening. We found on admission of the patient to the hospital in the first case a well marked complication incident to the injury. I exhibited this patient to you on a previous occasion, and spoke of the existence of an extensive swelling of the elbow-joint, most notable at a point above the olecranon process and immediately over the posterior aspect of the lower portion of the arm. The swelling could be directly traced into the joint, as was evident by the apparent widening of the joint incident to extensive intra-articular effusion. I have been able to ascertain through the swollen overlying soft parts distinct evidences of the existence of a fracture of the olecranon process. The injury was followed by considerable intra-articular extravasation. We shall find on opening the joint a considerable amount of extravasated blood. About a week ago I punctured the joint with a small trocar, but failed to

evacuate any of its contents, owing undoubtedly to the existence of coagulated blood in the joint. We injected into the joint a three-per-cent solution of carbolic acid. This intra-articular injection has had a decided beneficial effect. I find the swelling to-day reduced materially in size. I have been hesitating in reference to the time I shall select for the purpose of opening the joint with a view to removing the products of extravasation. But as long as the intra-articular antiseptic injection has had the effect of stimulating the process of absorption, we shall postpone arthrotomy until we become satisfied that the process of absorption has become arrested any time in the future, when we shall not hesitate to interfere promptly. The fracture in this instance is through the olecranon process at a point near its attachment to the shaft of the ulna. I can feel a distinct ridge with a corresponding depression showing slight lateral displacement. However, I am unable to move the olecranon process to any considerable extent, which is perhaps proof that the periosteum has only in part been torn, the olecranon not having lost its entire attachment to the shaft of the ulna. We shall immobilize the arm in the proper position, which is that of slight flexion, and I shall instruct the assistant to apply a fifty-per-cent solution of alcohol, which will contribute somewhat toward stimulating the process of absorption. We shall soon resort to systematic massage in this case, another expedient that has a very decided effect in promoting the process of absorption.

The next case is a recent one, the fracture of the olecranon process being caused by a fall from a freight car. The exact manner in which the patient fell is somewhat uncertain, but undoubtedly it was either the result of hyperflexion of the forearm or hyperextension, or the fracture occurred in consequence of the application of direct violence. The patient is able to move the arm to a certain extent, but flexion and extension are greatly diminished. I rely in this instance, in ascertaining the existence of fracture, largely upon the point of tenderness as well as on the preternatural mobility of the olecranon. When I pass my finger along the ulnar ridge I come to a point where tenderness is exquisite. I find now in examining the surface the direct cause of the fracture. There is a hard, well marked abrasion showing where the fracturing force was applied. So in this instance we have positive manifestations of the *modus operandi* of the injury. The fracture occurred in consequence of the direct application of force immediately over its seat, where we find the well marked abrasion I have referred to. I now take hold of the olecranon process, and on attempting to move it laterally I produce pain. I find now that I can move the olecranon process to a considerable

extent in a lateral direction, and in so doing I feel very distinctly a crepitus. I have not made extensive manipulations because these would be unnecessary. Having found the line of tenderness corresponding to the fracture, with slight lateral deformity, with lateral movement over the olecranon process, we have positive indications of the existence and exact location of the fracture.

A fracture of the olecranon process must be treated with care, because it means a fracture which involves and extends into the elbow-joint. The only displacement we will find complicating a case where the fracture is complete, with corresponding laceration of the periosteal envelope, is a longitudinal displacement—a diastasis. To overcome this diastasis it becomes necessary to dress the arm in nearly an extended position. I shall direct the assistant to immobilize the arm exactly in such a position, with very slight flexion. This is done by using a straight splint with angular cushion corresponding to the bend of the elbow. The splint is to be held in place by strips of adhesive plaster, one below the thumb, another one above the wrist-joint, and a third one at the base of the arm. Then with a strip of adhesive plaster the upper border of the olecranon process is grasped in the manner I show you; the strip of adhesive plaster is drawn downward and fastened over the splint. We shall not apply this dressing in the clinic for want of time, but I hope to be able to show it to you at the next clinic. The idea is to immobilize the elbow-joint in proper position, the forearm at slight flexion, and to overcome the diastasis directly by making use of adhesive plaster, grasping the olecranon process, and drawing it down in the direction of the shaft of the ulna.

FRACTURE OF THE SPINE.

I showed you recently a case of fracture of the spine, and now the recovery of the patient is almost complete. I will show you to-day a second case in which there are not only distinct evidences of the existence of a fracture, but its exact anatomical location. The injury was sustained four months ago by hyperflexion of the spine, as is always the case. It is easy to detect the exact location of the fracture at a point corresponding to the tenth or eleventh dorsal vertebra, with marked kyphosis. We have resorted to the following treatment in this as well as in similar cases, when there is no paralysis of the lower extremities: The patient has been placed upon a Rauchfuss splint in the dorsal recumbent position, and this splint is applied both for the purpose of effecting extension of the spine, as well as to secure immobility at the seat of fracture. The fracture has now united firmly. We can at present rely safely upon a fixation dressing, permitting the patient to

leave his bed and to walk about in a plaster-of-Paris splint, which will be applied in the course of a day or two. I can recommend this splint in the strongest terms in the treatment of fractures of the spine in which there is no paralysis below the seat of fracture, no crushing or compression of the cord causing paralysis of the lower extremities. In case a fracture of the spine is complicated by paralysis, either the result of laceration of the cord or compression from various causes, we make use of the water-bed for the purpose of preventing decubitus. In all other cases the Rauchfuss splint surpasses all other mechanical means of immobilizing the spinal column at the seat of injury.

FRACTURE OF THE RIBS.

Here is a case of fracture of the eighth and ninth ribs at a point where we confidently can look for a fracture after the direct application of force to the ribs, namely, at the junction of the ribs with the cartilage. There is a separation of the eighth and ninth ribs from the cartilages. I have simply had this patient brought into the clinical amphitheater to show you the method of fixation employed, which consists of circular strips of adhesive plaster for the purpose of immobilizing the injured side of the chest.

SYNOVIAL TUBERCULOSIS.

You will doubtless remember that at the last clinic we punctured the knee-joint in this case for synovial tuberculosis, and injected iodoform-glycerin emulsion. Unfortunately, the patient was unable to enter the hospital for financial reasons, and has been treated as an outdoor case. I always hesitate to puncture the knee-joints of these patients and make use of such a potent agent as iodoform-glycerin emulsion, for the reason we should have them under direct supervision. The patient expressed his inability financially to take my advice to enter the hospital. I would like to have you notice the size of the knee-joint. We emptied it completely of a copious effusion. After tapping and evacuating the effusion, the knee-joint appeared almost normal, but to-day again it is enormously swollen. I am glad that this is the case, because in all instances when the iodoform-glycerin emulsion exerts its therapeutic effect satisfactorily a violent local response takes place. The joint becomes more swollen, as a rule, than it was before the tapping was done. This is the reaction of the tubercular synovial membrane to the agent injected into the joint. There is present now decided effusion. I believe if temperature observations have been made, it will be found that this patient's temperature must have risen at least one to two degrees within

twenty-four hours after the injection was made. That is the rule, if the iodoform-glycerin emulsion exerts its curative effect, and the local as well as the constitutional response is always manifested after such operative intervention. We will envelop the knee-joint with a thick cushion of cotton and apply over it a gauze bandage for the purpose of immobilizing the limb, and instruct the patient to report again a week later.

COLLES'S FRACTURE.

I have shown you many cases of Colles's fracture in the aged during the present winter, but it is not often that I can exhibit to you a case of a similar accident in a child. This boy fell a week ago directly upon the palm of the hand. Note the appearance of the wrist-joint to-day. We have a typical silver-forked deformity in this case, a subluxation of the lower end of the ulna, the seat of the fracture being about three-quarters of an inch above the wrist-joint; deviation of the lower fragment backward toward the dorsal side of the arm; lateral and posterior displacement of the lower fragment—a typical Colles's fracture. I shall recommend that this boy be brought into the hospital. I am informed that only two weeks has elapsed since the accident. If we administer a general anesthetic I am satisfied that we shall be able to break up, by mild manual force, the existing adhesions between the two fragments, effect reduction, and consequently secure a good result. The ulna is not fractured. In the majority of cases in children we find both the radius and ulna are fractured. Here the ulna is intact, but subluxated.

LARGE INGUINAL HERNIA.

When this patient was lying on the table the hernia could not be very well seen, but the moment he assumes the erect position you will notice the hernia, which is of large size, and descending gradually into the scrotum. I will now ask the patient to cough, and you will notice that the impulse on coughing is very plainly seen. The hernia becomes tense and very much enlarged during the act of coughing. I can easily reduce this hernia with the patient in a standing position. The patient will be advised to enter the hospital for the purpose of having a radical operation performed. The opening is so large, and the obliquity of the inguinal canal so much diminished, that in all probability we shall have to make a Bassini operation.

METATARSALGIA.

This is an interesting case indeed. The patient gives a history of gonorrheal infection, and he now has a symmetrical affec-

tion of the metatarsophalangeal joint of the second toe on both feet. In pressing on the dorsal side of the joint I am unable to produce any pain. There is likewise no pain when I press on the lateral side, but there is exquisite pain when I press on the plantar side. Please remember that this is one of those cases which you are apt to overlook. It is not a joint affection, although the patient has had specific urethritis, but it is one of metatarsalgia, an affection first described by Morton, of Philadelphia. He is similarly affected on the opposite foot. That is an important point. This affection is undoubtedly the result of harmful pressure, illy constructed shoes, etc. If this patient will give the feet rest undoubtedly spontaneous recovery will occur. If not, resection of the affected nerve, or even resection of the joint, as has been advocated by Morton, may become necessary to bring about permanent relief; but by physiological rest of the foot in an elevated position I look for a spontaneous recovery in this case.

GLANDULAR TUBERCULOSIS.

This woman is twenty-three years of age, and states that the glands of her neck began to enlarge about two months ago. When I examine the lower margin of the glandular swelling I am able to detect an additional gland, which aids very much in making an absolute diagnosis. We have here an affection involving at least two glands in close proximity, the smaller one below the larger one. There is not very much pain, and very little tenderness. No fluctuation. It is a plain case of glandular tuberculosis, for which excision will be urgently recommended.

TYPICAL BLACK EYE.

I want to show you a typical black eye in its early stages, such as results from a fall or a blow. To-morrow morning this woman's left eye will be nearly closed, and the characteristic black discoloration of the skin will take place. She fell directly upon the superciliary arch. I wish to call your attention to the subcutaneous extravasation here. There are doubtless two teaspoonfuls of blood between the bone and the pericranium. I can palpate through the orbital arch very distinctly; consequently I believe that this extravasation is between the bone and the pericranium. We shall recommend compression and the application of some resorbent stimulating lotion, such as a 25-per-cent solution of alcohol, or a solution of muriate of ammonia combined with well applied, well fitting compression—agencies resorted to for the purpose of expediting the removal of the extravasation by absorption. I could, of course, insert a small trocar and remove the

extravasated blood, but the same thing can be accomplished in two or three weeks by well applied compression and the use of local remedies calculated to promote the process of absorption.

MASTOIDITIS.

This patient I have exhibited to you before. It was originally a case of otitis media with mastoiditis, for which an operation was performed outside of the hospital. Permanent facial paralysis followed the operation, and the patient has only received partial relief from the intense, agonizing pain, which he refers to the temporal region largely, as well as to the region immediately above the external ear. I want you to be as quiet as possible, so that I can demonstrate a very important physical sign. By tapping over the temporal region I am able to elicit marked tympanitic resonance. It sounds like tapping on a drum. By tapping over the temporal region of the opposite side we get the very opposite of tympanitic resonance; it is solid. This tympanitic resonance, as I informed you before, is due to extension of the infection from the middle ear to the meninges of the brain, of which we now have positive evidence. I have no doubt that in operating on this patient we shall find putrefactive bacilli and extremely fetid pus.

(*To be continued.*)

CORRECTION OF EYE AFFECTIONS WITH GLASSES.

BY ROBERT M. LAPSLEY, M.D.,

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In recent years the wearing of glasses has become so common in people of all ages that many of the laity think that nearly all affections of the eye can be cured with glasses, and people consult us with treatment already outlined by saying, "Doctor, I need some glasses."

They go to the oculist, optician, jeweler, or pedler, and order glasses, just as they go to the shoemaker to get a pair of shoes, or to the hatter to get a new hat, and often with much less thought and willingness to spend money than if it was for an Easter bonnet. This is all well enough, in a way, as many people need the glasses, and get those that give them relief, but it is very likely to lead to bad results, as they get what they want and not what they need. If a person gets tan shoes when he needs patent

*Read at Iowa State Medical Society, May 16, 1901.

leathers, no great harm is done, but if he gets a pair of "specs" when he is developing glaucoma or choroiditis, irreparable damage may be done, and that is largely why fitting glasses is not a trade.

One of the most potent factors in the relief of human suffering is the properly fitted lens. It opens new worlds, and makes occupations possible that without it would have been out of the question.

The dull person becomes acute in perception, the person with poor squinting eyes and defective sight opens the eyes and sees well, headaches disappear, and even a long list of nervous diseases have been relieved. The change that even a weak lens makes is remarkable, and while we debate about the value of the 0.25 D. cylinder and spherical lens, we have all seen splendid results follow their use. In fact, I suppose most of us have seen symptoms markedly improved by wearing plain clear lenses.

I would not advise any one to fit plain ones, but I have had patients come to my office wearing that kind, and with past benefit.

The study, however, of the correction of eye affections with glasses is, perhaps, the most scientific study in medicine, and it is more nearly possible to forecast accurately the results than in most other treatment.

When we find a person with 0.75 D. astigmatism and frontal headache or tired eyes, other things being normal, we can reasonably expect relief by use of glasses.

In correction by glasses the question presents itself as to whether it is necessary to wear the glasses all the time, or only for near work. Should the glasses be worn for distance, farther than is necessary to improve sight or relieve symptoms? Should a person with astigmatism wear glasses constantly, when he has no discomfort or inconvenience in going without them? I see no reason why he should, and yet there is reason in advising patients in a somewhat strong manner of the necessity of wearing them, as they are prone to take advantage of the liberty they are given.

No doubt many persons have marked errors of refraction without symptoms, and the majority of eyes lack something of optical perfection; yet these eyes are as useful as the ideal eye, and need no treatment. One patient may have an error of 1.00 D. and need no treatment, while another may need glasses badly for 0.25 D. Many things have to be taken into consideration besides the mechanical part of the eye, and it seems necessary to advise glasses only in cases where symptoms of eye-strain or defective sight are found.

Eye-strain may exist as a transitory affection and not need glasses. Patients recovering from illness often are advised to wear glasses, and find on recovery of their strength that they are not necessary. Rest of the eyes was what they needed, and it was not very essential that glasses should be used to promote the rest.

Most eye-workers, however, who once become the victims of eye-strain, have either to change occupation or make use of glasses.

The lens as a therapeutic agent has a very wide range of usefulness, and it is the most necessary article many people possess; but the lens business is overdone nowadays as a commercial business, and it is this fact, as much or more than ignorance, that we need to keep in mind.

The cylindrical lens has a wider range of usefulness than any other agent in the hand of the specialist.

Muscular anomalies are now shown to exist in a large proportion of eyes. The importance of their bearing on eye troubles is not definitely settled. Some authorities attribute much to heterophoria, and others little. In my study of refraction cases I find from one to three degrees of muscular weakness in a large proportion of cases. The symptoms of eye-strain are given in most cases, but on examination some error of refraction is also found, which I correct, and with that the symptoms of eye-strain disappear, which would leave the inference that the heterophoria is of no importance. Cases do not always end so happily, however, and treatment must be instituted for the overstrained muscles.

It is reasonable to expect in most cases a correction of symptoms in hypermetropia and esophoria, by simply using proper convex lenses, when we find so many cases of convergent strabismus that are corrected in this way and without operation. It is necessary to properly center the glasses, as the looking through the side of a lens often produces more symptoms than going without it. I quote the following case as an illustration:

Case 1.—October 24, 1898. Miss M——, aged eighteen, has worn + 4.00 D. four years with reasonable comfort, but for a few weeks eyes have pained, patient has had headaches, and print blurs on reading. Pupilary distance was too narrow, and on inquiry I found she had recently had glasses changed into other frames. Examination showed hypermetropia, which I corrected only to + 3.50 D., and had glasses properly centered. In addition there was five degrees of esophoria, for which no other treatment was used than the convex lenses. By using these glasses constantly patient was comfortable.

Such cases are numerous, and I find not uncommonly in

patients wearing glasses for presbyopia (not properly centered) symptoms of discomfort appear. Many patients with presbyopia seem to have little difficulty seeing with any glass near the proper one, and decentering has little or no effect.

In those cases of muscular trouble which do not yield to properly centered correcting lenses we find a more difficult problem. In desperation I now and then prescribe a prism to be worn, and get satisfactory results. The following case shows the folly in using prisms for constant wear:

Case 2.—January 1, 1901. Miss A——, aged thirty-one, came complaining of headaches back of eyes, relieved by glasses in days gone by, but not at present. Glasses worn: R + 0.50 combined with + 0.50 ax. 180° combined with prism 2° base out; L + 0.50 combined with + 0.50 ax. 180° combined with prism 4° base down.

Patient suffered much with use of eyes and was a constant eye-worker. Examination showed R + 0.25 combined with + 0.25 ax. 180°; L + 0.50 ax. 180°; vision 20/20. No muscular trouble found.

Advised change of glasses, and patient was so pleased to find less eye trouble than expected that she shortly left off glasses altogether, and is comparatively comfortable.

It seems probable the use of prisms in this way would seriously affect muscular balance.

To estimate the importance of errors of refraction and their correction by glasses, I have run over my cases for the past twenty-one months, and find, in a list of 1000 patients of all kinds in a general eye, ear, nose, and throat practice, there have been 316 cases of errors of refraction. This does not include fifty-four cases of presbyopia, as a portion of these are combined with the cases of errors of refraction. As some of the patients had anisometropia I have separated the various kinds of errors into a certain number of eyes with each trouble.

I find, then, the number of eyes with different errors of refraction to be as follows: Hypermetropia, 190; simple hypermetropic astigmatism, 166; compound hypermetropic astigmatism, 165; myopia, 30; simple myopic astigmatism, 49; compound myopic astigmatism, 11; mixed astigmatism, 21. Total, 632.

Eyes with presbyopia, part in above list and part simple presbyopia, amounted to 108.

This does not include my cases in which I have operated for cataract and had aphakia as a result, which also required glasses. Many of these patients had muscular anomalies, most of which were relieved by correcting above errors. Most of these patients

were relieved by glasses, some worn constantly, some only a portion of the time.

I give the list to show in a general way something of the importance of the lens as an agent of relief. As these cases all occurred in my private practice I have made careful notes, but the length of my paper will not permit of details.

It will show, then, that in a possible average practice in a small city over one-third of cases presenting themselves to an eye, ear, nose, and throat specialist will need the use of glasses in some way. That is, out of 1000 patients, 316 had some error of refraction that was corrected; enough others with presbyopia and aphakia were given glasses to make the number greater than one-third.

I do not hesitate to say, then, that while glasses are greatly abused in many ways, they are the most important agents that we, as specialists, have for the relief of human suffering.

Glasgow, with a population of 750,000 inhabitants, has learned, says *American Medicine*, not only to keep its 315 miles of streets clean, but to realize a large profit from the refuse. The Glasgow Cleaning Department controls several farms with an aggregate area of 800 acres, employs 1300 men, and owns 900 railway cars, 300 horses, and a vast array of carts. It has besides its own railways on its own estates, its own quarries and workshops. The city refuse is divided into four distinct classes—domestic garbage, refuse from business houses, excrement from public works and dwellings, stable manure and refuse from abattoirs. These last two articles mixed together form a compound which commands a ready sale and brings a good income to the city. There are special establishments in various parts of the city known as despatch works for the separation of inferior material from that having value, where ashes and sweepings are screened and scientifically mixed with a fixed quantity of excremental matter for use as a fertilizer, and this is eagerly bought up. The iron, tin, and paper are sold separately. The useless matter is consumed in furnaces, and the civic government of Glasgow is considering a scheme by which the heat resulting from the burning garbage may be utilized, as its volume is sufficient to generate 890-horsepower of steam an hour, or power enough to light 600 street lamps of 2000-candlepower each. The cost of the operations for the year ending May, 1899, was $365,000, and the revenue was $750,000.

CORRESPONDENCE.

THE CORRUPTION OF SCIENTIFIC NOMENCLATURE.

To the Editor of THE MEDICAL AGE:

When a writer attempts to discourse on any given science or trade he must first of all be conversant with the terminology of his subject, and must apply the same correctly lest, instead of making plain that which is obscure, he makes confusion more confused.

This trite observation is inspired by an article by Noah E. Aronstam, M.D., Ph.G., printed in the MEDICAL AGE of June 25. Dr. Aronstam there says, in discussing the question of "protyle as the basis of elemental individuality," that "the ultimate particles of matter capable of mutually combining with each other to form definite or individual elements are termed 'protyles' "; and again, further on, "protyles combine in definite proportions to form definite substances, which are called elements."

All of which, it is important to point out, is not in conformity with accepted theories or current nomenclature, as reference to any good dictionary will readily demonstrate.

Protyle cannot be used in the plural; for, according to the hypothesis, it is the fundamental, primitive, *undifferentiated* material constituting the universe of which matter in its various forms (elements) has been evolved by differentiation. Hence, according to the most common view, an elementary atom is a vortex (whirl) of the protyle of a particular size, outline, and velocity, these varying for each element. When thus in vortical motion the protyle takes on the properties of "matter."

I respectfully submit that it is wrong deliberately to corrupt scientific nomenclature, especially in so profound a branch as cosmogenesis. Moreover, if a writer wishes to accept the hypothesis that the atom is made up of smaller bodies, then he will find to hand at least two terms already applied by eminent scientific authorities, namely, "corpuscles" and "electrons," which stand exactly for what Dr. Aronstam appears to be contending.

ADOLF G. VOGELER.

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

All communications regarding papers, reports, etc., should be addressed to the Editor of THE MEDICAL AGE, P. O. Box 484, Detroit, Mich.

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EDITORIAL ARTICLES.

THE HOT WEATHER.

The phenomenal heat exhibited this year must cause some wonder as to the way cosmic matters work out. Why should not the alternations of the seasons be more stable in their manifestation. The earth has settled down to humdrum existence in most departments. Earthquakes and cyclones are only occasional visitants. Meteorological phenomena are usually expected and unsensational, yet this terrific heat manifests itself without reason or valid explanation on the part of those learned in such matters.

What shall we do to keep cool is a problem which appeals to each individual in his own way. There is, however, little doubt that our traditions in this part of the country are not tropical, and therefore we may not show all the adaptability to overheated conditions which would be shown had we a different experience. Food and clothing are only modifiable within certain limits. The fixity of opinion which Uncle Sam officially exemplifies when he provides his soldiers in the Philippines with beans and bacon instead of chicken and rice more or less clings to those who are not tied up in departmental red tape. A judicious dietary of fruit, macaroni, and rice would do much to obviate the digestive disturbances that arise as a result of the hot weather.

Regarding the use of the bath a large amount of superstition still seems to linger. The weakening effect of frequent bathing still holds popular belief. There has, however, certainly been no demonstrable fact recorded in the clinical laboratory which would indicate that any line of action inconsistent with personal comfort should be pursued in this respect.

The prevalence of cases of sunstroke during the season of high temperature makes the hospital authorities prepared for the treatment of such cases. The diagnosis of thermic fever is

usually made without any difficulty. The high temperature, ranging from 106° to 110°, is not likely to be confounded with any other febrile lesion. Occasionally mistakes are made, and uremia with a temperature of 105° is not unknown. The catheterization of all cases of unconsciousness is a wise proceeding, as analysis of the urine at once decides the existence of uremic complication.

The mitigation of heat prostration is undoubtedly aided by appropriate suggestion. The uncomplaining manage to suffer less than those who are perpetually grumbling at the inevitable.

EDITORIAL NOTES.

Is the American Becoming Obese?

The comparative merits of fat and lean men have been variously estimated. Some observers of a statistical turn of mind have lately been taking stock of the man in the street in New York. Among 1000 New Yorkers, from the age of twenty upward, over twenty-eight per cent showed an abnormal development in the abdominal region. In a poor quarter the percentage of fat men was about fourteen, but in Broadway, where the well-to-do most do congregate, it was thirty-five. In the corridors of a high-class residential hotel the number of obese individuals in a total of one hundred was seventy, while in a humbler caravansary the percentage sank to eleven, the lowest point anywhere noted. Altogether, among 1500 adults, taken at random, 447 were corpulent to the degree of deformity, giving an average of 29.8 per cent. This leads a British contemporary to consider that the American type no longer runs to the lean and lank. Statistics founded on observations in hotel corridors are manifestly misleading. The unbounded stomach of the drummer is becoming his chief characteristic. The bountifulness of American hotel tables is too much for him. Imperialism is usually obese in type it is said, so if democratic institutions are to be preserved, the undue tendency to abdominal expansion must be checked.

To Avoid Hernia.

A writer describing the conditions of the people of Nyassaland says inguinal hernia is unknown among them. He attributes this to the manner in which the child is carried in infancy. The

mother carries her child seated on the prominence of the hip, its legs embracing her flank and its whole weight borne by a simple sling carried to the opposite shoulder. This practically maintains the normal uterine flexion of the thigh at the hip. Tiny children of a few days of age are carried in this way in perfect comfort. If the child be a male, the descended testis is kept in place in the scrotum, and the opened processus vaginalis is encouraged to close. We in our wisdom do differently. We swathe the limbs in swaddling clothes and remove the abdominal walls from the support of the flexed thigh, with the result that hernia occurs with extraordinary frequency in the first year of life.

A Chance for Americans.

A prominent Liverpool shipowner has founded an "international fellowship" in University College, Liverpool, open for competition to members of American schools and universities. The value of it is about $500 a year. The successful candidate is to devote himself to research in physiology, pathology, and bacteriology in the Thompson-Yates Laboratories, the expenses of the research to be paid for by the laboratories. Here is a chance for the young American student to make a catch.

To Avoid Prickly Heat.

A writer in the *Indian Medical Record* tells how they avoid prickly heat in certain parts of India. This is done by simply anointing the body with cocoanut oil. Prickly heat, the writer contends, comes from removing the natural sebaceous secretion; therefore preserve nature's protective coat by abandoning the use of soap, and reenforce it by some lubricant such as the one recommended.

ITEMS AND NOTES.

A DECREE has been issued making vaccination in Cuba obligatory.

SMALLPOX has appeared at the Michigan Asylum for the Insane.

LATEST reports indicate that yellow fever is developing in certain parts of Cuba.

A CASE of bubonic plague has been discovered on the steamer *Hohenfels* in New York.

THE fourth Italian Congress of Pediatrics will convene at Florence October 15 to 20.

A NEW hospital for babies will soon be erected in New York City, at a cost not to exceed $50,000.

IN one battalion of soldiers stationed at Metz, Germany, 291 cases of typhoid fever recently occurred.

DURING the week ending July 16 there were 989 deaths from heat in the five boroughs of Greater New York.

THE Sultan of Turkey has ordered the establishment of medical schools at Bagdad, Damascus, and Smyrna.

THERE were about 400 delegates present at the opening session of the British Congress on Tuberculosis on July 22.

THE Philippine Commission has passed bills establishing a government biologic and chemic laboratory at Manila.

PROFESSORS JULLIEN AND J. DE LISLE, of Paris, have made the announcement that they have discovered the bacillus of syphilis.

IT is reported that a syndicate is trying to buy up all the drug stores in the city of Philadelphia and place them under one management.

N. S. DAVIS, JR., has been elected dean, and Arthur R. Edwards secretary, of the Northwestern University Medical School, Chicago.

A NEW hospital for tuberculous patients is about to be built near Aberdeen, Scotland. The money for its erection was obtained entirely by voluntary contributions.

The health officer of Brooklyn has recently begun the organization of a summer corps of twenty physicians, who will make systematic visits to the tenement house districts and give their services free to the poor.

The daughter of the late Prof. John Hughes Bennett will erect at the University of Edinburgh an experimental physiologic laboratory with theater attached and all the accessories needful for modern teaching and research.

According to an exchange, it is said that Dr. Tanner, of fasting fame, now sixty-eight years old, has challenged the brewers of Denver to a fasting contest. Six men are to drink beer only, and he is to drink water. The brewers have agreed to the contest.

The report of Major Gorgas, chief sanitary officer of Havana, for the month of June, states that there were no cases of yellow fever in that city during the month, this being the first June in over one hundred years in which the city has been free from the disease.

Dr. V. C. Vaughan, in his address to the funeral directors and embalmers at the recent Detroit convention, said: "It is impossible in a post-mortem, if such fluids are used by the embalmer, to tell whether the poison was put into the body before or after death. Thus, in a way, justice is blocked, and I believe I have known murderers to escape because it was impossible to tell whether they had given the arsenic or whether it had been used by the undertaker."

American Medicine is responsible for the following: A curious superstition begins to gain a large number of supporters in Berlin. Three "doctors" named Grau, Freiberg, and Herrmann have established a reputation for eradicating disease from men and beasts by driving it into trees. The cures are effected at night on Tuesdays and Fridays of the week of full moon. A needle is stuck into the skin over the affected part of the body, and remains there until a few drops of blood appear. The blood is collected on a sheet of paper, and the paper is rolled in the shape of a pill. The "doctor" then goes into a wood alone carrying this pill, selects a tree, and inoculates the bark with the pill. The process of bloodletting and inoculation is repeated three times.

A new German army hospital at Kaiserhofen received, according to *American Medicine*, its first patients last May, and is from all reports a model of its kind. The grounds, about 35,000 square

yards in area, are surrounded by a double fence of wire netting, a necessary precaution, since contagious cases will also be cared for in this hospital. The ground over the entire place is so prepared that it will remain dry in the rainy weather. The sixteen barracks for the patients are each adapted to receive eighteen patients, and each is surrounded by a garden. Accommodations are provided for the garrison and officers; there are separate buildings for contagious cases; laboratory facilities are well provided. Large tents are supplied for convalescents, opportunities for games and amusements, a reading and a writing room. The sanitary arrangements are of the best, and all means are taken to prevent the spread of disease.

A Washington press despatch is responsible for the following: According to scientific investigations, directed from Washington, which have been going on for several months, there are about 275 cases of leprosy in the United States—that is to say, that many have been reported. Very probably the real number is nearer 1000 than 275, but this latter number is the highest that can be fixed with certainty. For various reasons physicians who have cases of this disease, in many instances, fail to report them; but the reported number is sufficiently large to cause some alarm. Of the 275 located cases, seventy-four are in New Orleans, among the foreign population, chiefly the Italian. There are twenty-three in Minnesota, mostly among Scandinavians, in the rural settlements. There are fifteen cases in North Dakota and two in South Dakota, among the same class of people. So far as has been ascertained there are none in Michigan nor in Indiana, but in the big cities Chicago has five cases and New York six. Boston has none.

The comptroller of the treasury has approved, says the *New York Medical Journal*, the decision of the auditor for the treasury declining to grant a refund of $62 paid by the German Benevolent Society of San Francisco as taxes and penalty on the business of a retail liquor dealer, under the war revenue act. The commissioner of internal revenue recommended the refund, and transmitted his recommendation to the auditor, taking the position that the German Benevolent Society conducted a hospital for sick members of the society. He held that it was not a private institution conducted for pecuniary benefit, but a public institution founded and conducted for the general good. It was admitted that wines and liquors were given patients, and in cases charges were made therefor. In passing upon the question the comptroller says that the statute defines a retail liquor dealer as "every person who sells or offers for sale" liquors. It makes no exceptions of hospitals or charitable institutions.

NEW PUBLICATIONS.

ATLAS AND EPITOME OF OPHTHALMOSCOPY AND OPHTHALMOSCOPIC DIAGNOSIS.

Workers in ophthalmology, whether they are students or teachers, will welcome this English translation from the third German edition of Professor Haab's Atlas of Ophthalmoscopy and Ophthalmoscopic Diagnosis. The lithographic plates exhibit the important fundus changes in a remarkably lifelike manner, in numerous instances illustrations of the microscopic lesions being given. Professor Haab has gathered his valuable material from his rich clinic, and it is not too much to say that this work is of peculiar importance, if not more useful than atlases costing ten times its price. Above all, the work recommends itself for its availability, being intended for practical every-day use, and this without sacrificing the scientific character of its original research.

Atlas and Epitome of Ophthalmoscopy and Ophthalmoscopic Diagnosis. By Prof. Dr. O. Haab, of Zurich. Authorized Translation from the Third Revised and Enlarged German Edition. Edited by G. E. de Schweinitz, A.M., M.D., Philadelphia. With 152 Colored Lithographic Illustrations. Philadelphia and London: W. B. Saunders & Co., 1901.

LABOR AND OPERATIVE OBSTETRICS.

The difficulty of demonstrating the technics of obstetrics has been largely overcome in this volume. The plates with which this atlas abounds will be a source of great satisfaction to many students and practitioners, and will add much to their resources. As a practical guide this atlas will be found invaluable.

Atlas and Epitome of Labor and Operative Obstetrics. By Dr. O. Shaeffer, of Heidelberg. From the Fifth Revised German Edition. Edited by J. Clifton Edgar, M.D., Professor of Obstetrics and Clinical Midwifery, Cornell University Medical School. With 14 Lithographic Plates, in Colors, and 139 Other Illustrations. Cloth, $2.00 net. Philadelphia and London: W. B. Saunders & Co., 1901.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE.

All interested in internal medicine will welcome the translation of Eichhorst's text-book. The author is among the most renowned of present-day teachers, and as Germany may be said to lead the world in internal medicine, this text-book commends itself to a wide circle of readers. The work is conveniently arranged in two volumes. The illustrations are numerous, and the author's style is lucid and interesting. The reader experiences the satisfaction of feeling that he is having the most told him in the fewest words.

A Text-book of the Practice of Medicine. By Dr. Herman Eichhorst, Professor of Special Pathology and Therapeutics and Director of the Medical Clinic in the University of Zurich. Translated and Edited by Augustus A. Eshner, M.D., Professor of Clinical Medicine in the Philadelphia Polyclinic. Two Octavo Volumes of Over 600 Pages Each; Over 150 Illustrations. Price per set, cloth, $6.00 net. Philadelphia and London: W. B. Saunders & Co., 1901.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

The Present Status of the Carcinoma Question.

N. Senn (*Medical Record*, July 13, 1901) has made the following propositions in regard to this question:

1. The most notable contributions to the present status of the carcinoma question are to be found in the investigations which have thrown new light on the origin, growth, segmentation, and manner of local and general dissemination of the carcinoma cell.

2. Carcinoma is a tumor resulting from an atypical proliferation of epithelial cells from a matrix of embryonic cells of congenital or postnatal origin.

3. The law of the legitimate succession of cells holds true in the origin and growth of tumors, both benign and malignant, as well as in the production of normal and inflammatory tissue.

4. As carcinoma always originates from epithelial cells, primary carcinoma in mesoblastic tissue is impossible from a histogenic standpoint, unless a matrix of embryonic epithelial cells has become displaced during the development of the embryo, or embryonic epithelial cells have become buried in mesoblastic tissues after birth, by injury or disease.

5. The histology and histogenesis of carcinoma speak against the parasitic origin of this disease.

6. The stroma of carcinoma consists of preexisting connective tissue fibers and their descendants.

7. Carcinoma cells usually multiply by irregular, atypical karyokinesis, and this pathological segmentation is an important indication of malignancy, and as such is of considerable diagnostic value.

8. The progressive extension of a tumor to adjacent tissues and organs, regardless of their anatomical structure, is a strong proof of its carcinomatous character.

9. Regional metastasis in carcinoma takes place exclusively through the lymphatic channels, and the preexisting lymphatic structures take no active part in the origin and growth of the secondary tumors.

10. General dissemination of carcinoma usually takes place by direct implication of veins in the primary or secondary tumors. Carcinoma cells reach the venous circulation through the formation of an intravenous tumor thrombus, through carcinomatous

endophlebitis, or, finally, through perforation of the vein wall by isolated carcinoma cells. Retrograde intravenous extension of carcinoma is due to the transportation against the venous current of minute emboli of carcinoma cells surrounded by a mantle of blood-corpuscles which move, step by step, upon the intima. Retrograde extension through the lymphatics may take place in the same manner, but there is very little doubt that it is more frequently the result of carcinomatous endolymphangitis.

11. The increase of carcinoma seemingly shown by some recent statistics is more apparent than real.

12. Heredity is a generally recognized potent predisposing cause of carcinoma.

13. As a rule, carcinoma occurs in persons of advanced age, but occasionally is met with in persons less than twenty-five years of age, and in the latter case the disease is characterized clinically by its great malignancy.

14. Carcinoma seldom follows a single injury, but develops more frequently in consequence of repeated injuries or prolonged continuous irritation.

15. Among the predisposing causes of carcinoma must be enumerated racial, climatic, and topographical influences.

16. Chronic inflammatory products, cicatrices, and benign epithelial tumors produce local conditions favorable to the development of carcinoma.

17. The positive results of implantation and inoculation experiments have so far failed in establishing beyond all doubt, upon a bacteriological and histological basis, the parasitic theory of carcinoma.

18. A careful study of the experimental researches and bacteriological and histological investigations concerning the etiology of carcinoma does not at the present time warrant us to claim for this disease a parasitic origin.

19. The experience of centuries and the internal use of innumerable remedies have demonstrated that so far carcinoma has not been materially influenced for the better by this method of treatment.

20. Direct medication of carcinomatous tissue by parenchymatous injections has no influence in retarding or arresting its growth, while the injection of sclerogenic substances into the connective tissue around the border of the tumor appears to restrain the local extension of the disease by impairing the blood-supply to the parenchyma of the tumor.

21. Local applications of any kind in the treatment of ulcerating carcinoma must be considered at best only in the light of palliative measures.

22. The actual cautery and chemical caustics have only a limited field of usefulness in the treatment of open inoperable carcinoma. They should never be employed in the treatment of closed carcinoma as a substitute for the knife.

23. The treatment of carcinoma by different sera has, without any exceptions, yielded only negative results.

24. The early and radical operative treatment of carcinoma offers the only prospect for permanently eliminating the disease.

25. The permanency of the results of the operative treatment of carcinoma cannot be determined in less than ten years after the operation.

26. A radical operation for carcinoma should never be attempted unless the local conditions and general health of the patient are such as to promise an equivalent of the immediate and remote risks to life and comfort involved in the operation.

27. Taking it for granted that carcinoma is the product of an erratic, planless cell-growth outside of the range of the physiological influences which preside over and regulate normal growth and tissue repair, it appears logical in the search of curative agencies to make experiments and observations with the view of finding a remedy which would destroy the tumor by causing an early and speedy degeneration of its parenchyma, or which would possess the property of converting embryonic into mature epithelial cells, thus converting a carcinoma into a benign epithelioma.

Hernia of Fallopian Tube Without Ovary.

Morf (*Annals of Surgery*, March, 1901) reports twenty-three authentic cases, adding one in his own experience. Out of the total of twenty-four, thirteen were inguinal, ten femoral, and one obturator; five of the thirteen cases where the tube was found in an inguinal sac were in infants; Morf's own patient was twenty-four years of age, but reported herself as ruptured from birth. As the canal of Nuck is patent and the tube lies relatively high at birth, a congenital hernia of the tube is easy to understand. Two cases occurred in pregnancy, where the tubes are raised above the pelvic cavity. In the remaining cases the explanation was not evident. All the ten cases of femoral hernia occurred in adults, six being over forty; four patients were pregnant. Strangulation occurred in fourteen out of the twenty-four (inguinal six, femoral seven, obturator one); it is not so dangerous as strangulation of intestine, even if unrelieved. In one case abscess formed and burst, and the sloughy tube came away in the dressings. Tubal pregnancy occurred in one case; at the operation the sac was found full of clots, and also contained a fetus three inches long.

Reduction by taxis is inadvisable; when the sac is opened, however, the tube should be reduced if healthy, but removed if sloughy.

Total Extirpation of the Urinary Bladder.

J. W. Bovee (*American Medicine,* July 13, 1901) says that until a more satisfactory plan of disposal of the ureters is found cystectomy should never be undertaken for conditions other than exstrophy, when partial extirpation of the organ is possible. Even a very small portion of the bladder into which the ureters may be debouched is practically free from the great danger of infection incident to bowel grafts, and further, such disposition of the ureters is more easily executed. For exstrophy the Maydl and Pozzi operations are quite satisfactory, though the danger of infection seems ever present. Rectal graft of the ureter in its continuity and skin grafting of this duct are highly dangerous. Ureterovaginostomy is practically free from ascending infection, though it gives far from perfect results. The urethral graft of the ureter seems free from infection, but the constant dribbling of the urine is but slightly ameliorated by the use of a urinal. The Mauclaire-Gersuny operation is worthy of a further application, inasmuch as it provides for both sphincterec bladder and bowel.

Gonorrheal Exanthemata in Infants.

Dr. Paulsen (*Münch. Med. Woch.,* June 18, 1901) believes that skin eruptions are much more frequent in infected infants than in adults suffering from gonorrhea. He reports a number of cases where the skin lesions consist of vesicles containing pus with an abundance of gonococci present, which is the only way to diagnose them from other innocent eruptions. They are caused by metastasis from an ophthalmia or from primary infection of the skin. In severe cases the development of furunculosis and glandular suppuration may ensue. There is no special treatment save cleanliness and opening of the larger vesicles, after which the gonococci rapidly disappear, other bacteria take their place, and healing promptly follows.

MEDICINE.

Discovery of the Bacillus of Syphilis.

A communication of the greatest importance was read by Drs. Justin de Lisle and Louis Jullien (*Medical Press,* July 3, 1901)

before the French Academy of Medicine on July 2, giving the result of their researches bearing on the specific bacillus of syphilis. This they claim to have discovered, and if their observations are confirmed the discovery may fairly be described as one of supreme importance.

These observers remark that although the blood of syphilitics has been found sterile by most previous investigators, it is on this fluid nevertheless that they carried on their observations, because they felt convinced that a constitutional disease like syphilis must necessarily infect all parts of the organism. They chose for their investigations cases of recently acquired syphilis in which no specific treatment had been resorted to. The blood experimented with was withdrawn direct from a vein under the strictest antiseptic precautions, and both the blood and the serum were then examined under the microscope. They found therein a rounded, granular, highly refractile body, capable of traversing a Chamberland filter, possessed of marked mobility, of a kind already noticed by other observers. These bodies, however, never gave any result either in cultivations or by inoculation, a result which, they point out, should not excite surprise, in view of the recognized fact that the coagulated blood of syphilitics is incapable of conveying infection. This destruction of infective power is probably due to the presence in coagulated blood of a strongly antibacterial substance, alexin. In order to obviate the production of this substance they made use of blood plasma for their investigations, as well as of blister exudation, produced either in the ordinary way by means of cantharides, or by means of Mayor's hammer. In the plasma they found on several occasions a form of bacillus presenting the following characteristics: It is polymorphous, varying in shape from a short bacillus measuring from 5 to 8 m. in length, and from 15-100 to 3-100 m. in width, to that of a long thread with somewhat rounded ends, not swollen into sledge-hammer shape. This organism is very mobile and moves freely in the field of the microscope. It takes all the usual stains, but it must not be dried in the flame or at a temperature above 60° C. The best stains are alcohol-ether, a solution of osmic acid, or a saturated aqueous solution of corrosive sublimate, acidulated by the addition of acetic acid. It does not take the Gram stain.

Bouillon inoculated therewith becomes turbid in twenty-four hours, and in the course of four or five days a slight cloud forms which does not spread or become thicker. Gelatin is slowly liquefied. When stabbed into gelatin it gives rise neither to the cone nor the extinguisher; the liquid in the tube is flaky, and of a greenish hue. The gelatin is not colored and its surface remains even. On gelatin *en boite* colonies appear in from four to five

days, of a rounded outline with irregular margins, and of a grayish hue. In from twenty to thirty days the whole of the gelatin is liquefied. On ordinary gelose and on glycerinated and peptonized gelose it gives rise to a creamy, moist layer of a faint green tinge. It grows freely on glycerinated potato in the form of a whitish layer which is not dry or scaly and collects at the bottom of the tube. On solid serum it remains invisible, and does not cause liquefaction. It grows freely in amniotic liquid. It does not coagulate milk, but precipitates the casein, leaving a fatty layer on the surface, with an alkaline reaction. It produces neither pyocyanin nor indol. Most cultures have a disagreeable but not fetid odor.

The organism increases in length with the age of the culture, and in five or six days becomes thread-like. In ten days it becomes granular and assumes the appearance of the rounded bodies referred to above and met with in plasma, but if at this stage it is inoculated in fresh culture media it reassumes its primitive characters. In thirty days they are all granular and apparently dead, and reinoculations remain sterile, though with certain precautions and within certain limits the organism can be brought back to life. The most resistant part of the virus appears to be concentrated in these bodies.

Guinea-pigs into whose peritoneal cavity these cultures were injected died in from ten to fourteen days with paralysis, emaciation, and abortion. Young animals succumbed in twelve hours. Injected beneath the skin it determines the characteristic symptoms, viz., loss of hair and the formation of an indurated, ulcerated plaque, with enlargement of the neighboring lymphatic glands. Post mortem the urine is albuminous, the spleen contracted, and the liver and kidneys often the seat of fatty degeneration, the blood being invariably sterile. In the frog death supervenes in thirty-six hours. The sterility of the blood of animals after death recalls the fact that no case has ever been recorded of syphilitic infection by post-mortem wound.

A three-days-old culture of this organism, placed in contact with the serum of a syphilitic subject with secondary symptoms, determined marked agglutination, a phenomenon which is not produced with the serum of a healthy subject. The inoculation of the cultures in syphilitic subjects remained in every instance without result. Lastly, the alexin contained in the serum of an animal subjected to repeated injections of syphilitic plasma became fixed by this organism, this reaction being due to the intervention of a substance, the special sensitizer, engendered by vaccination.

En résumé this organism has been found in syphilitic subjects presenting external manifestations of the disease in every case of

syphilis examined, and in no other cases. It agglutinates the serum of syphilitic subjects and not that of healthy subjects. Experimental inoculation in animals determines special symptoms comparable to those observed in man. It fixes the special alexin of animals vaccinated with syphilitic products, its cultures are without effect on the subjects of syphilis, and lastly, as with syphilis in man, the microbe dies with its host.

On these grounds they affirm that this organism is really the pathogenic organism of syphilis.

The Influence of Morphine on Gastric Secretions.

Professor Riegel (*Medical Press,* July 3, 1901), in discussing the influence of morphine on gastric secretions, says that the experiments that he has made were in agreement with those performed on animals, and were to the effect that morphine exercised no inhibitory influence on the gastric secretion, but that, on the contrary, its principal influence lay in exciting the secretion, even if the effect was not immediate. Only at first morphine appeared to check the secretion slightly, but the slight check was soon more than made up by a considerable increase. Whether the long-continued use of morphine tended in the end to lessen the secretion, the writer's own experience did not allow him to decide. In his experiments on dogs, even when continued for several days, he never observed any diminution of the secretion. At the most the intensity of the stimulating effect in that direction was not so marked. The investigations make it clear that to give morphine in cases of ulcer of the stomach in the expectation that the acidity of the stomach will be diminished by it is a mistake. On the contrary, it appears desirable to bring into view and put into use the drugs that are known to have an inhibitory effect on the secretion. Whilst atropine and belladonna arrest the secretion in a marked manner, morphine increases it. Morphine may therefore be given in affections of the stomach only in cases where hypersecretion will do no harm. When, however, excessive secretion is likely to be harmful, belladonna preparations are to be preferred, as in addition to the pain-relieving properties they also assist in checking secretion.

A Method of Detecting the Bacillus Typhosus.

M. Cambier (*Lancet,* July 6, 1901) explained at a recent meeting of the Paris Academy of Sciences a method of detecting the bacillus typhosus. He placed a porous porcelain bougie in a large glass tube, both tube and bougie being half-filled with bouillon

sterilized at 110° C., and showed that when the bouillon contained within the bougie was inoculated with a pure typhoid culture, after some hours' subjection in a stove to a temperature of 37° C., that part of it in the glass immediately around the bougie, which had been originally quite limpid, presented manifest symptoms of the passage of the bacillus through the pores of the bougie. This property possessed by the bacillus typhosus of being able to traverse certain porous divisions suggested to M. Cambier the idea of making the following investigations in water. He infected a certain quantity of water within the bougie with the bacillus typhosus. The bougie was placed in a liter of bouillon at 38° C. As soon as a cloud appeared in the bouillon outside the bougie, with a delicate pipette he removed drops of the turbid fluid and inoculated with it different common substances—such as milk and potatoes, for example—which were afterward submitted to microscopical examination and the agglutination reaction. Sometimes the passage of the bacillus typhosus was so complete that he found a pure culture of it within the bouillon. M. Cambier was able by this method to isolate the bacillus typhosus in the water of the Seine and of the Marne. His investigations are now being directed toward typhoid stools.

Sugar-free Milk as a Food for Diabetics.

The following diet has been prepared by R. Hutchinson (*Lancet*, June 22, 1901). He has also devised a milk preparation which contains all the original casein and salts along with a certain additional proportion of fats. It is practically sugar-free.

Breakfast.—Bacon; eggs scrambled with butter; fish with butter sauce, or some form of cold meat; toasted protein bread with plenty of butter; and *café au lait* made with sugar-free milk and sweetened with saccharin if desired.

Dinner.—Soup (without vegetables or other carbohydrate-containing matter); fish (preferably one of the fatter sorts); meat with green vegetables and melted butter; custard of eggs and sugar-free milk; and cheese with protein bread and watercress. Beverage: whiskey and water or any dry natural wine.

Supper.—A cup of well made beef tea; eggs in some form—*e.g.*, as an omelette with as much butter as possible; fish or cold meat; and cheese with protein bread and butter and a salad with plenty of salad oil. Beverage: a glass of sugar-free milk.

The rest of the milk, sufficient to make the total daily allowance up to three pints, should be taken as a beverage between the chief meals.

Typhoid Infection from an Autopsy.

Dr. Fuenrohr (*Münch. Med. Woch.*, No. 25, 1901) reports his own case of typhoid fever which followed his holding an autopsy on a woman who died of the disease. About three weeks after the autopsy, the incubation period being between two and three weeks, he began to have fever and other symptoms, which terminated in an undoubted case of typhoid with a positive Widal's reaction. Regarding the source of infection there seems to be no other explanation than the autopsy, as there were no cases in the neighborhood. He had examined the intestines very carefully at the autopsy, at the same time washing his hands often in a bichloride solution, but he believes that during the washing of the intestines with running water small particles of the virulent material were spattered upon him. Two other cases have been reported, which points to the fact that great care in cleanliness and disinfection should be taken at autopsies.

Objective Disturbances of Sensibility in Aortic Aneurism.

H. Frick (*Wien. Klin. Woch.*, No. 25, 1901) reports a case of large aneurism of the aorta in which the only subjective symptom was intercostal neuralgia. The sensory disturbances of the trunk were very capricious and changeable in their character. One day the zone of anesthesia and hypoalgesia extended from the sternum to the axillary line; the next day there would be hyperalgesia with the sense of contact entirely gone. Sometimes the zone indicated a lesion of a peripheral nerve, or with hypoalgesia there would be retarded sensation of pain. The author observed another similar case in Schlesinger's clinic, so that these two cases indicate that these abrupt changes in the sensory domain may prove to be characteristic of aneurism. Hysteria could be excluded from both cases.

PATHOLOGY AND BACTERIOLOGY.

UNDER THE DIRECTION OF THADDEUS WALKER, M.D.,

Microscopist to Harper Hospital, Detroit.

Pathological Changes in the Bile.

L. Brauer (*Münch. Med. Woch.*, No. 25, 1901) has made a number of experiments upon dogs with gall-bladder fistulæ, to determine artificial changes in the bile. Soon after intoxication

with ethyl or amyl alcohol, these appear in the bile. Amyl alcohol has a more marked action than ethyl alcohol, producing an easily recognizable albuminacholia. Microscopical examination of the bile sediment revealed distinct epithelial casts, some beautifully branched, some fine spiral cylindroids, and some large polygonal cells with large central nuclei and granular protoplasm, resembling liver cells. The position of the liver in the portal circulation is such that poisons taken by mouth will disturb its parenchyma before any other gland, as the kidney. The demonstration of alcohol in the bile throws more light on the theory of the causation of the alcoholic cirrhoses.

Germless Pus in Man.

Kreibich, of Kaposi's clinic (*Wien. Klin. Woch.,* No. 24, 1901), reports the examination of the contents of the vesicles in several cases of herpes zoster and found them sterile. Another case of eczema presented the same phenomenon. The vesicles were first clear, then the next day they became turbid, and on the following day they contained pus, but no bacteria could be found by microscopical or culture methods. The serous contents were transformed into pus without the aid of bacteria. This upsets old theories that where there are no bacteria there can be no pus. The author concludes that suppuration is merely a quantitative stage of inflammation and not a qualitative different form of inflammation.

THERAPEUTICS.

Johimbin.

Berger (*Deut. Med. Woch.,* April 25, 1901; *British Medical Journal,* June 29, 1901) gives his experience of the use of johimbin as an aphrodisiac. The drug is obtained from the bark of the Cameroon tree, johimbehe. In animals the drug, given in doses of 0.005 to 0.01 gramme, produces swelling of the testes and powerful erection without disturbing the general condition. Berger's cases—seven in number—received a fluid form of the drug, of the strength of one decigramme to 20 cubic centimeters, and 20 drops of this solution represents five milligrammes—that is, 154-10,000 gr. Five patients were suffering from "paralytic impotence," while two were sexually healthy, and merely received the drug to prove its absolute harmlessness. Of the five patients, four had previously suffered from gonorrhea. They all showed sexual incom-

petence. The exhibition of the drug called forth erections and capability for coitus after a few days; but this effect appears to pass off after a time. He advised that five milligrammes be the initial dose, and that, if the desired result is not obtained in a week, 10 or 15 milligrammes be then given. A. Eulenberg (editor of the *Deut. Med. Woch.*) also states that he has used johimbin in a one-per-cent solution, in doses of ten drops, and in five-milligramme tablets, in cases of neurasthenic impotence with excellent results, and can strongly recommend it as an aphrodisiac.

Unusual Dosage of Diphtheria Antitoxin.

H. L. Nietert (*St. Louis Medical Review,* July 6, 1901) reports the case of a young man, aged twenty-one, who was admitted to hospital with a diagnosis of diphtheria, and to whom, during the course of about twenty-three days, over 25,000 units of antitoxin were given without any ill effects. The writer believes that the serum was less effective in this case on account of the streptococcus infection in addition to the diphtheria infection. The patient made a good recovery.

RHINOLOGY AND LARYNGOLOGY.

UNDER THE DIRECTION OF WADSWORTH WARREN, M.D.

Trephination of the Sphenoidal Sinus Through a Healthy Maxillary Sinus.

In *Arch. Internat. de Laryngol.,* vol. xiv, No. 1, Dr. F. Furet reports a case in which, in order to successfully reach and treat a case of disease of the sphenoidal sinus, he opened a channel through the walls of the maxillary sinus. As a result of the experience gained in this operation he draws the following conclusions: While, on the one hand, in simple cases and in those in which the passage through the nasal cavity is broad and direct this route should be used, at the same time there are cases in which a route through the maxillary sinus may well be selected, as, for instance, in a case in which the maxillary sinus itself is diseased, as well as the sphenoidal (Jansen-Luc). Again, in all those cases of inflammation of the sphenoidal sinus in which there are cerebral complications; in such cases, which are not rare, operative interference to be of any avail must be rapid and certain. Again, in those cases of sphenoidal sinusitis in which the nasal passage is unusually narrow or the nasal cavity presents some abnormal formation.

OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,

Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

The Use of Sulphate of Copper in Affections of the Cornea and of the Lid Other than Trachoma.

J. H. Claiborne (*Medical Record,* July 27, 1901) says that sulphate of copper in the form of the solid stick is indicated:

1. In all acute attacks of inflammation of the cornea in which there is thickening with a succulent velvety appearance of the upper lid.

2. In all recurrent attacks of superficial keratitis in which the same condition of the upper lid prevails.

3. In infiltrations of the cornea which are the result of preceding inflammations, associated with the same condition of the upper lid.

4. In maculæ of the cornea in children and adults which have occurred a reasonable time after an inflammation, whether the upper lid presents the characteristic appearance or not.

5. In chronic conjunctivitis attended by thickening of the lid associated with blepharitis.

6. In chronic dacryocystitis (particularly in those cases in which the canaliculus has been slit) attended by chronic conjunctivitis.

A Brief Note on Aspergillus Keratitis.

J. M. Ball (*American Medicine,* July 6, 1901) says that aspergillus keratitis is a more common disease than has been supposed by writers on ophthalmology. Intense pain in the eye, followed by the development of a brownish or black mass within the substance of the cornea, are pathognomonic signs of aspergillus keratitis. Removal of the mass early in the case was followed by uninterrupted cure. Failure to recognize the condition and apply proper treatment is followed by sloughing of the cornea, and in some cases by loss of the eye.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,

Lecturer on Dermatology, Detroit College of Medicine.

The Treatment of Cutaneous Cancer.

In a paper read in the Section on Cutaneous Medicine and Surgery at the meeting of American Medical Association, June 4 to

7, 1901 (reported in *Journal of the American Medical Association,* July 13, 1901), Dr. M. L. Heidingsfeld, Cincinnati, Ohio, says in discussing his method of treatment that he uses "arsenious acid, mixed with equal parts of pulverized gum arabic, to which sufficient water is added to make a paste of the consistency of butter, and enough cocaine crystals to alleviate the anticipated painful reaction, as recommended by Marsden, Robinson, Gottheil, and Stelwagen." He finds "it expedient to add 10 per cent glycerin before adding water, which prevents the paste from becoming too dry, and therefore prolongs and intensifies its action; the reactionary pain is also diminished by the glycerin.

Ac. arseniosi,
Pulv. gum acaciæ, ää..... 5
Cocain. mur. cryst..... 2
Glycerin 2
Aquæ, q. s.
M. Ft. paste. Sig.: Apply locally.

The paste is applied directly to the ulcerated surface, after being uniformly spread on a piece of muslin or linen, which has previously been carefully adapted to the affected area. It dries in the course of five or ten minutes, and remains firmly adherent until its removal twelve, twenty-four, or thirty-six hours later is indicated by the pain, intensity of the reaction, or the degree of the treatment required. The after-treatment consists in the application of simple, soothing, antiphlogistic remedies, in the form of indifferent pastes, Wilson ointment, combined with cold compresses saturated with the solution of alum acetate. The resulting pain is usually slight, often scarcely sufficient to disturb sleep. There is some reactionary inflammation, in the form of redness and swelling, which is usually limited to the ulcer and its immediate neighborhood."

He has "not found it essential to prepare the surface by the application of caustic potash, in stick or solution, green soap, etc., as recommended by numerous authors, in order to cut down the epidermis and to remove scales, crusts, and keratoses, which can interfere by their presence with the action of the arsenic."

From this he infers "that arsenic possesses not only an elective action exerting its chief influence on the weaker and less stable pathological tissue, sparing the more resistant surrounding normal tissue, but also exerts a specific influence over the cancerous tissue whereby it inhibits its growth and prevents its further spread and development without entailing its direct destruction."

Sarcoma and the Sarcoid Growths of the Skin.

In a paper presented at the last meeting of the American Dermatological Association (reported in the *Journal of Cutaneous*

and Genito-Urinary Diseases, July, 1901) James C. Johnston, M.D., instructor in pathology, Cornell University Medical College, says in conclusion that the processes of elimination and classification are going on in sarcoma cutis, as in other groups, such as eczema and the bullous affections, and is unquestionably a step in the right direction.

1. The group may be divided into three classes: Fibroblastic sarcoma, the lymphoid-celled class, and sarcoid growths.

2. The first class comprises spindle and round-celled tumors. True giant-celled sarcoma is not primary in the skin. The origin is the same for all types, from the fibroblast. Between the cells there is present invariably a delicate reticulum, probably composed of collagen, which does not occur in epithelial neoplasms. The tumors are all vascular.

3. The lymphoid-celled class should have a place to itself. In lymphatic leukemia, Hodgkin's disease, and lymphoma, the cells are all of one type, and the cases show transition states from one to the other. There is no intercellular substance present as a product of the new cells, there are no vessels ramifying between them, and the preexistent tissue does not melt away before their advance. So far as the skin is concerned these disorders give rise to true tumor formation, which may be asserted also of myelogenous leukemia. This class is not related histogenetically to either of the other two.

4. The sarcoid tumors are undoubtedly all fibroblastic in origin, but two of them are probably granulomas, whose organism has not been discovered—no reproach at present. They are granuloma fungoides and sarcomatosis; with them should be classed Boeck's sarcoid as a granuloma, certainly not with lymphodermia. Modern histologists regard idiopathic sarcoma as having the same character, but it closely approaches sarcoma on one side and endothelioma on the other. The reticulum is present here, as in sarcoma and productive inflammations, but these neoplasms do not metastasize, and they are curable by arsenic, except granuloma fungoides. Perhaps the spindle-celled sarcoma, which disappears under the same treatment, is a near relative to Kaposi's sarcoma, so that a transition may be traced by easy and well known steps from the most malignant of neoplasms to benign tumors, hardly distinguishable from granuloma, a class of infective, generally productive, neoplasms, as lymphoid tumors shade from lymphoma through lymphemia to inflammatory hyperplasia. It will be interesting to see whether an infectious agent is ever discovered for fibroblastic sarcoma, or whether a sharp line is to be drawn through the sarcoid group, between it and granuloma.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,
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Ovarian Organotherapy.

Wm. Krusen (*Johns Hopkins Bulletin,* July, 1901) in an article under this heading says that experience has led him to the following conclusions, based upon the use of the American product upon American women: (1) The employment of ovarian extract is practically harmless, as no untoward effects beyond slight nausea have been noted even when full doses have been administered. (2) In the treatment of amenorrhea and dysmenorrhea no good results were secured (although in some cases of amenorrhea of obesity, remarkable results have been obtained by the use of the thyroid extract). (3) The best results were seen in the second class of cases, for the relief of symptoms of artificial menopause, when in a few instances the congestive and nervous symptoms were apparently ameliorated. (4) No appreciable result was noticed in the use of ovarin in the natural menopause. (5) No definite or exact reliance can be placed upon the drug, as it often proves absolutely valueless where most positively indicated. (6) It is extremely problematic whether, in those cases in which relief was noted, the effect was not due to mental suggestion rather than to any physiologic action of the drug. The neurotic type of individual demanding this treatment will often be relieved by any simple remedy. (7) In those instances in which effects were noted increase in dosage seemed to have little influence in maintaining the effect or preventing the patient from becoming accustomed to its use. (8) In conclusion, the theory which suggests the use of this extract seems to be at fault, and the administration of ovarin or ovarian extract is based upon a wrong assumption as to the function of the ovary. In organotherapy the best results have been obtained from the use of the thyroid and adrenal glands, and the ovary in function is in no sense analogous to these organs. Its principal function is ovulation, and if any peculiar product is coincidentally manufactured, the isolation of this product has not yet been accomplished.

The Relation of Pelvic Diseases to Insanity.

Pelvic disease, according to J. C. Doolittle (*Virginia Medical Semi-monthly,* July 12, 1901), is often associated with mental disease, and may be a factor in its etiology, but seldom, if ever, the sole cause of insanity.

Pelvic diseases and menstrual disorders are not associated with any particular characteristic psychosis.

There is no apparent relation between the intensity of the mental disturbance and the severity and extent of the pelvic disease.

Pelvic diseases in insane women should receive the same treatment when practicable as in the sane, and for the same reasons.

Surgical operations on those of unstable and defective mental organization, and on those hereditarily predisposed, will usually result unfavorably and leave the patient in a worse mental condition than before the operation; and this is particularly true when there is no local pelvic disease.

The best results from surgical operations may be expected in the hysterical and those especially disturbed at the catamenia.

The Status of Hysterectomy for Uterine Cancer.

C. A. Kirkley (*American Gynecological and Obstetrical Journal*, July, 1901) says that the radical operation for uterine cancer may be admissible when the disease is seen in its earliest stage, when the diagnosis is most difficult and cannot be confirmed without microscopic examination.

Vaginal hysterectomy is clearly indicated only in adenocarcinoma of the body.

Abdominal hysterectomy is clearly indicated only in cases in which the disease is strictly limited to the cervix and body, or to the body alone.

As only temporary relief can be expected in the vast majority of cases, the operation involving the least risk, and which promises most to prolong life and relieve symptoms, should be the operation of choice.

Electrocauterization has shown better results, should have more extended trial, and when practicable should have precedence over all other procedures.

A Foreign Body as a Hindrance to Delivery.

Dr. Czarnecki (*Deut. Med. Woch.*, No. 23, 1901) reports that he was called to a case of confinement by the husband, who said, "There is a box in the way." The physician took the remark as a joke, but when he arrived on the scene he found a foreign body in the uterus, which he removed, and which proved to be a metal box, 10 x 4 centimeters in size. He ascertained that she had placed it in her vagina at her first menstruation, to check the flow. She was unable to remove the box and informed no one of its presence, not even her husband when she was married. She passed through an abortion, and probably at that time the box slipped into the uterus. It had thus remained thirteen years in the vagina and eighteen months in the uterus, without causing any disturbances until it mechanically interfered with delivery.

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ORIGINAL CONTRIBUTIONS.

SOME OBSERVATIONS ON THE TREATMENT OF HYPERTROPHIC RHINITIS.

BY CHARLES M. ROBERTSON, A.M., M.D., DAVENPORT, IOWA.

Chronic hypertrophic rhinitis is divided "(*a*) into a stage of vasomotor paresis, where there is a dilatation of the venous sinuses, and (*b*) into a stage of fibrous metamorphosis or sclerosis. In the first the venous sinuses are widely dilated from complete relaxation of their walls, and the turbinated bodies are consequently much enlarged, even to the complete occlusion of the nasal passages. This swollen tissue is soft and sodden, showing but little elasticity when pressed upon. Under the microscope the sinuses are found widely dilated, and in section usually filled with blood; there is always an extensive infiltration of leucocytes, with a tendency to fibroblastic organization of the same into new connective tissue. The second or sclerotic stage may be found side by side with the areas of simple dilatation, or it may involve the entire intranasal region of the one or both sides. It is quite common to find the vasoparetic and fibrous stage of the disease affecting the opposite sides of the nose at the same time; one turbinated body showing dilatation only, while the other exhibits gross fibroid changes. The period of fibroid metamorphosis is marked by more or less density of the turbinals, and the surface of the membrane is usually irregular. Ecchondroses of the nasal septum are of very frequent occurrence, especially at the extreme lower and anterior border of the cartilaginous portion, or a long ridge may extend the entire length of the septum. Frequently the turbinated body will be found markedly grooved by a corresponding ridge projecting from the cartilaginous septum, although a considerable interval of space may intervene at the

time of the examination, showing that during the first stage the turbinal pressed against the septum." (Burnette System, p. 633.)

From the foregoing it will be seen that in the treatment of this disease there are two conditions that might be treated in different ways. In the first stage we have an enlarged turbinated body, from the presence of too great an amount of blood, from dilatation of the venous sinus, and where there is no great amount of new tissue found. We have in this instance a vasomotor paresis to deal with, a condition in which all we aim to do is the exclusion of the excess of blood in the part, either by medical administration or by surgical procedure. In the second stage we have to deal with a condition in which there is not only a large amount of blood in the part, but in addition a formation of connective tissue, which interferes with the secretion of the glands by the pressure produced upon them, and is as much a detriment to the proper function as if it were a tumor.

In the first stage it matters little whether we use some medication to control the vasomotor nervous supply, or whether we pin down the tissue to the bony parts to prevent the ingress of blood; this latter being the effect produced where we use the galvanocautery or some escharotic, such as chromic or glacial acetic acid. There are cases where the space between the turbinates and the septum is small, and where there is a myxomatous degeneration of the tissue, which condition is very common where the anterior end of the middle turbinate is hypertrophied. In these cases the use of the acid or the hot wire seems to be of little benefit. In this instance we should treat the condition present as we would the second stage, and it is of the methods that I desire to speak.

In cases where there is an overgrowth of tissue, but where there is plenty of room for respiratory purposes, we can employ the galvanocautery to tie down the tissue that fills with blood from lack of vasomotor control. Here also we might employ the use of caustics for similar purposes, but if there should not be room in excess of that required, it is far better to remove some of the turbinated body affected than to try to get room by burning the tissue too much. Most of the cases that it has been my fortune to see have been those where there had been considerable hypertrophy, and at the same time occurring in nostrils that had at best only a limited amount of room. In all these cases it is my plan to operate, and not temporize with a method that at best is poor. I therefore cut the tissues away, giving to the nostril capacity enough to carry on the physiological function of respiration, even though there be present afterward some vasomotor paresis or the development of additional hypertrophy. I have

seen many cases operated upon by myself and others where, after they had been subjected to repeated treatments with the cautery or some escharotic, this method had to be resorted to finally; indeed, these instances have been so frequent that I have, in all cases where there was much enlargement, resorted at once to the trimming of the turbinates.

The turbinated bodies hypertrophy in certain ways that are almost constant. Thus it is common to see the lower turbinate hypertrophy along its lower border or at its posterior end. Again, the middle turbinate usually hypertrophies at its anterior end. We know that the lower border of the inferior turbinate increases in size to obliterate the lumen of the nostril or the posterior end so as to fill the entire postnasal opening. The middle also occludes, to a greater or less extent, the lumen of the anterior nares. The venous sinus is the part of the turbinated bodies we desire most to save, for it is the part that carries on the respiratory function of the nose—that is, the pouring out of serum to be taken up by the inspired current of air. Therefore, it is our aim to save as much of these sinuses as possible. We know from anatomical study that there is a venous sinus on the inner side of the inferior and middle turbinated bodies, and one on the posterior end of each of the turbinates. Therefore we are conservative in dealing with this part of these tissues. To perform their function they must be freely accessible by the inspired air, and hence any hypertrophy of either body is trimmed on its lower border if possible, rather than on its inner surface or its entire posterior end. In the middle turbinate the anterior end is the most unimportant part, and we do little harm in taking away its anterior end and inferior border.

It is necessary in cutting to take away enough to secure good breathing space. In operating upon these growths I first spray the nostril with a detergent solution to cleanse the tissue, then apply a ten-per-cent solution of cocaine on a small applicator. Here I would express my disapproval of the use of sprays of cocaine, as the toxic effect is in greater danger of being reached by the spray in weak solutions than where we apply it to the part we wish to cocainize on a small pledget of cotton. After the application of the cocaine I apply a four-per-cent solution of the extract of suprarenal capsule in the same manner that I apply the cocaine. The advantage of the suprarenal capsule extract is twofold: first, it exsanguinates the part, allowing the operator to see just what he is doing, and secondly, it assists the action of the cocaine in keeping the blood out of the part; this would have the effect of making the patient less liable to unhappy effects from the cocaine.

The method that has proven entirely satisfactory in my hands is done by the Myles cutting forceps. If the lower border of the

inferior is to be removed, it is taken so that the forceps just miss the bone. The turbinate is trimmed from the anterior to the posterior end, its entire length. If there is a great lack of room I do not hesitate to trim off the bone. The hypertrophy of the posterior end of the bodies is sometimes taken better with the snare, but can be easily removed with the forceps. In operating on the anterior end of the middle turbinate I am more liberal in cutting, as this portion of the body has not the special tissue that its posterior end or inner surface has.

After the growth has been removed, the nostril is cleansed with dry pledgets of cotton, and the nose packed with gauze which has been saturated in hot sterilized vaselin. This makes a very pleasant dressing, in that it does not allow the air to strike the wound and does not adhere to the tissues when it is removed. The nose is dressed once or twice daily for three or four days, and after the danger of hemorrhage is past the gauze dressing is discontinued. The nose is kept clean by the use of sprays.

Nothing has been said concerning the removal of nasal spurs or the straightening of deflections of the septum, as that is, of course, taken with the rest of the operative procedure, at such time as the convenience of the case admits. It is pleasing to note the great benefit these patients experience so soon as they have nasal breathing established, which is done at once and not after months of treatment, as occurs when the treatment is by means of acids and the galvanocautery.

The observations from the foregoing are:

1. The utter uselessness of treating a growth of organized tissue in the nostril by the application of sprays and the galvanocautery.

2. Where such growths exist treat as you would an overgrowth elsewhere.

3. Save all the venous sinus tissue possible and still secure breathing space enough.

4. The advantage of suprarenal capsule in nasal surgery.

5. The absence of danger of synechiæ forming, as they often do after the use of the galvanocautery or caustic.

6. The use of dry pledgets of cotton and the disuse of all fluids.

7. The great advantage of the greased gauze as a surgical dressing in the nose over old methods.

8. The danger in the use of cocaine lessened by the use of the suprarenal capsule extract.

9. The disappearance of nasopharyngitis after the nose becomes ventilated.

SARCOMA OF THE UTERUS, INVOLVING BROAD LIGAMENTS, MESENTERY, INTESTINE, OMENTUM, AND ABDOMINAL WALL, INCLUDING RECTUS MUSCLES AND SKIN; EXCISION; RECOVERY.

BY P. D. HUGHES, M.D., KANSAS CITY, KANSAS.

Mrs. Z——, aged thirty years, married, mother of one child, with history of good health up to winter of 1893, when she noticed a lump in the abdomen, low down on right side. This did not increase very fast until two years afterward, when she did some heavy lifting. Thereafter it increased rapidly in size, there was pain and tenderness on pressure, and increasing disability induced her to seek relief by operation in August, 1897.

After the surgical operation she discovered that the tumor mass was still present. She was informed that a cystic tumor of the ovary had been removed; that she was pregnant, and that the lump was the womb. After her return home the mass was gradually pushed much farther to the left by the constantly enlarging uterus.

In due course of time she was confined at term. The child still lives. The lump then returned to the median line. There was no particular pain during the next few months. She then found that she was sick at the stomach upon taking food, but did not vomit. Debility increased, and she began to feel large and tight. The abdomen became very large and painful after September, 1898.

She entered the Bethany Hospital about the first of the year. Upon examination, the abdomen was found to be very prominent in the median line, rather more full on the left side. A very large tumor mass was found, which reached from within the pelvis nearly to the ensiform cartilage; it was hard, but had not that marked induration common to the more dense fibroids. The skin above and below the umbilicus was involved, there being several nodules in this region, about the size of one's finger-nail. The line of incision made in 1897, with the marks of suture, about five inches vertically, was plainly visible. The tumor masses in the skin were not keloid, but sarcomatous nodules; one or two were rather soft in the middle. The tumor within the abdomen could not be moved without the skin going with it. I could find no motion in the pelvic portion.

Diagnosis: Sarcoma of uterus, disease following line of adhesions into skin, with possible involvement of intestines by adhesions or otherwise.

Upon stating to the patient and her husband that there was no hope of recovery without operation, and but little chance with one, probably one in several hundred, they earnestly requested me to operate.

Assisted by Drs. C. M. Stemen, J. L. B. Eagar, and E. M. Hetherington, Dr. Wm. E. Stemen in charge of the anesthetic, the operation for removal was done on January 19.

An incision was made over the outer margin of the recti, merging a short distance above the umbilicus and close to the pubis, cutting inward and outward, leaving a mere shred of the rectus abdominis on one side, and nearly one-half on the other, for a short distance removing the muscle entirely.

I succeeded in entering the cavity well to the right of the tumor mass. The incision was continued downward and upward, always keeping away from the growth one to one and one-half inches. At the upper portion the ligations extended across the omentum, which was firmly incorporated with the peritoneum and tumor. A portion of the digestive tract was found to be a part of the tumor; we thought it to be the stomach. It was very difficult to identify all that presented, distorted and bound to such a large fleshy mass. Upon cutting into this area an inch or so from the indurated portion, we knew by the lumen of the cavity incised that we had a coil of the small intestine. A portion of the mesentery about three or four fingerbreadths had to be removed, with the bowel. The omentum was almost entirely involved.

After whip-stitching the cut wedge-shaped surface of the mesentery, a large Murphy button was applied. The parietal peritoneum for a space of two or three inches each way from the median line had to be sacrificed. After severing connection between the tumor and the parts mentioned—for, of course, the tumor was not cut into at any point—it was then possible to rock the mass from side to side sufficiently to get at a limited portion of the broad ligament for ligation. The tumor had grown into the layers of the broad ligaments, so that we found it slow work placing ligatures sufficiently secure to risk cutting away. When sufficiently freed upon each side to get a neck which was composed of the lower segment of the broad ligaments and a very short piece of the cervix, which was not involved, several of those present urged me to terminate the operation as rapidly as possible, the patient having been pronounced dead two or three times.

What remained of the stump was constricted by wire and rubber ligature and the mass cut free. During the latter half of

the operation a large quantity of normal saline solution, at a temperature of 110° to 120°, was used to flush the peritoneal surfaces. This was repeated several times and seemed to revive the patient's flagging heart. Strychnine was injected freely—Dr. Stemen said to the extent of over two-thirds of a grain; also several doses of digitalin, 1/60 grain each, and whiskey 1½ ounces.

Great difficulty was experienced in closing the wall. Rubber tissue was spread in two or more places where the peritoneum was entirely gone. Pieces as broad as the hand were used, spread smoothly over the bowels, one end gathered and made to appear externally. I did this to modify the character of adhesions anteriorly, to assist in the prevention of immediate hernia through so inadequate a wall, and also to assist drainage.

Rubber tissue, flat or folded upon itself many times, is an excellent means of drainage and gives less liability to delayed union. This material was pulled upon two or three times a day after the first day, moving it a little each time, entirely removing it on the third day. A large quantity of serum was discharged into the dressings. Immediately about and below the stump, over the bladder, iodoform gauze was well packed, which was changed frequently. The elastic ligature was removed on the second day.

The wire constrictor was tightened every few hours and removed on the third day. Iodoform powder was freely applied to stump until healing was complete. The sloughing stump was small. No pus formed at any time. Saline solution, also whiskey and milk and eggs, were injected into the rectum every three or four hours for many days.

Strychnine 1/40, and digitalin 1/100, were injected three or four hours apart for about twelve days—less frequently, of course, after the pulse became better, which took place in about ten days. There was distress with the stomach for two or three days. A small quantity of cracked ice was given after thirty-six hours. A little tea and toast were given on the seventh day, which were retained. There was almost entire absence of pain; an uninterrupted convalescence. Dr. J. L. B. Eagar kindly examined the specimen furnished him, and he reported sarcoma.

The patient had the most devoted attention by intelligent, well trained nurses. The patient's pulse before operation was 142; it varied from 132 to 142 for many weeks before operation. She went home March 21 with a pulse of 80 when walking about, possibly well.

I am indebted to Dr. Katharine Richardson, Dr. S. A. Roberts, and others for assistance in this case.

SOME SURGICAL CASES.*

BY N. SENN, M.D., PH.D., LL.D.,

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(Continued from page 572.)

CARCINOMA OF THE PYLORIC END OF THE STOMACH.

The patient to be operated on this afternoon was presented at the last clinic, a diagnosis of carcinoma of the pyloric end of the stomach, which we hope will be verified by the operation, having been made at that time by a member of the advisory staff. In the event that the diagnosis is found correct, we expect to perform either a pylorectomy, if we find the disease is limited to the organ primarily affected, or a palliative operation if we find the disease has extended to the adjacent organs or has given rise to diffuse local metastasis through the lymphatic glands. One feature in this case is somewhat obscure. Judging from the size of the palpable tumor, I am astonished to find so little evidence of mechanical obstruction. Vomiting has not been persistent or constant, and it has not been influenced by different kinds of diet. The patient is a very bad subject indeed, because the disease has produced general changes which are not very favorable for the performance of any major operation. The patient is extremely anemic, and we have taken this matter into account in preparing him for the coming ordeal. It is in such cases that we are always fearful of the immediate effect of the operation in producing serious, if not fatal, traumatic shock. We have administered since yesterday rectal enemata of normal physiological solution of salt, one of the agents that we rely upon largely in the prevention and treatment of traumatic shock. You remember the local conditions that were so clearly pointed out by your colleague.

While the patient is under the influence of the anesthetic I can grasp this mass very satisfactorily, and I find it occupies the pyloric region of the gall-bladder. I shall make a diagnosticial incision, because we are not absolutely sure of the exact anatomical location of the disease. In all probability we shall find pyloric carcinoma, but it may be a distended gall-bladder. Let us hope it is the latter. I shall make the diagnosticial incision in the median line, and if we find carcinoma of the pyloric end of the stomach, it is through this incision that the operation will be performed. If we find it is a case of gall-bladder distention, the result of disease of the gall-bladder, we shall then close

*A surgical clinic, held at Rush Medical College.

the diagnosticial incision and make the usual incision directly over the enlarged gall-bladder. In exposing the stomach for operative intervention, particularly in performing gastroenterostomy, we invariably make the incision through the median line, extending from the tip of the xiphoid cartilage to the umbilicus. In this case I have cut down to the umbilicus and to its left side; that is about the line of the incision we make. I can enlarge the incision should it become necessary to do so. We cut always to one side of the umbilicus. I now divide the different layers until I am down to the aponeurosis of the recti muscles, which I now incise and expose the remaining structures. We have the subperitoneal tissues before us. Our incision is about two and a half inches in length, sufficiently large for diagnostic purposes. I will pick up the structures between two dissecting forceps. We grasp the peritoneum, now the last covering, open the abdominal cavity, and at once grasp the parietal peritoneum on each side with hemostatic forceps to prevent its retraction. We have an opening about an inch in length, which I will enlarge sufficiently to enable me to explore the stomach and its adjacent organs. The anterior wall of the stomach is visible in the incision. I will draw the stomach forward, palpate, and can assure you now that the diagnosis of carcinoma is correct. It is a very large tumor indeed, involving the pyloric end of the stomach, and I am already convinced of its malignant nature by the presence of considerably enlarged lymphatic glands underneath the visceral peritoneum. We shall therefore find in making the opening larger that, according to the indications, it will be necessary to limit operative procedures to palliation. There is decided lymphatic metastasis.

Having made an absolute diagnosis, I shall now enlarge the incision to the requisite extent for the remaining steps of the operation. I carry the incision a little to one side of the umbilicus and enlarge it a little in an upward direction. We must therefore be content in performing a gastroenterostomy. The stomach is greatly dilated. I am able to show you a carcinoma of the pyloric end of the stomach which, you see, is now visible in the upper angle of the wound. The coats of the stomach are drawn inward. I find a large carcinomatous nodule outside of the pylorus. This extensive lymphatic infiltration precludes a radical operation. I reduce the stomach. I must find now the intestinal loop, which I shall bring in communication with the stomach. The next organ I shall meet with is the transverse colon, which I now hold between my fingers. I will look for the small intestine lower down, and while looking and feeling for the intestinal loop I feel a number of large lymphatic glands

behind the stomach. These are enlarged retroperitoneal glands. You see the transverse colon, also the large omentum, and I show you a loop of the small intestine. I want to be sure to make the communicating opening as near the stomach as possible. I will ask the assistant to take hold of the intestine, and I have now in my grasp the upper part of the intestinal canal. I inspect the intestine, draw it forward, and trace it in one direction. If the intestine becomes smaller and smaller, I have reason to believe I am tracing it in a downward direction, so I will go on the opposite side. I examine loop after loop and find that the intestinal wall, if anything, becomes thinner, and what is very characteristic, more vascular, and contains more of the intestinal contents. We shall travel over some twenty or thirty inches of intestine, which is a matter of considerable importance. I have traced the intestine down to the ileocæcal valve, so we must hunt now in an upward direction. We have been fortunate in grasping the bowel very near the desired point. I shall reduce the explored part of the intestinal canal as well as the remaining portion of the intestinal canal.

In many instances gastroenterostomy has proved a failure because the communicating opening was made in the wrong place, too near the ileocæcal valve. We are therefore at a point very close to the stomach, as is apparent from the appearance of the intestine, which is less vascular, and is almost, if not entirely, empty. Having found the proper intestinal loop, we shall now establish between it and the stomach the communicating opening. I want the assistant to be careful to keep within grasp the distal side of the knuckle, between which and the stomach we are now going to establish the anastomotic opening. This becomes important when I anchor the bowel to the stomach, if it is done properly. I bring the stomach forward; the intestinal loop is secured. The transverse colon will now be reduced as well as the great omentum, with which I shall cover the transverse colon and bring the stomach forward for the remaining steps of the operation. The stomach is very much dilated; its walls are slightly thickened, a condition established by exaggerated physiological function in consequence of the effects of the long-continued mechanical obstruction. The assistant will now hold the stomach forward with the other hand, and I shall try to establish a communicating opening at a point a safe distance from the carcinoma and near the greater curvature. We replace all the remaining abdominal contents we have explored, bring the intestinal loop forward, and I will now follow Lauenstein's practice and first suture the intestinal loop to the anterior wall of the stomach.

I have selected for the visceral incision of the stomach a point

at least three inches from the seat of the carcinoma. I shall suture the bowel to the stomach as a preliminary step preceding the visceral incision. With the ordinary cambric needle, armed with fine silk, I now take the necessary number of Czerny stitches, using for this purpose the interrupted suture, because, after all, we rely upon interrupted sutures in securing accurate coaptation between the approximated serous surfaces. I take one stitch after another, about one-third of an inch apart, including in the grasp of the needle all of the tunics except the mucosa. This is very readily done in suturing the stomach, but it is not so easy in suturing the lower segment of the small intestine, of which we find the intestinal wall very thin; surgeons occasionally penetrate the thickness of the abdominal wall, and there is little chance in such an event for the escape of intestinal contents and the inevitable consequence—septic peritonitis. We have now exposed the minimum structures necessary in performing this operation, being extremely anxious to keep all of the viscera within the abdominal cavity so as to guard against undue loss of heat during the operation, which will necessarily be a somewhat prolonged one. We have already sutured about an inch and a half and shall continue to do so, and I would like to have you notice particularly in performing this anastomosis with needle and thread, that I am going to suture the intestine for at least four inches to the anterior abdominal wall for a distinct purpose. Many surgeons have been chagrined, after performing this operation, to find that the food taken by the patient thereafter was vomited, and that the clinical symptoms for which the operation was undertaken were greatly aggravated. This is due to the formation of a spur at the opening. This spur is in such a location that the stomach contents will enter the proximal end of the intestine in the direction of the stomach, causing intestinal obstruction. To prevent the formation of such a spur I take the necessary precautions and measures to guard against the formation of a flexion, and this is done most efficiently by extensive suturing of the intestine to the stomach. We will make here a junction of at least four inches in length. We have about three inches now or more, and I will put in a few additional sutures on the opposite side. Be sure, in making intestinal anastomosis, to precede the visceral incisions by the junction between the organs with which you wish to establish a communicating opening with a row of Czerny sutures. Very little time is lost, because these sutures will be utilized in the formation of the anastomotic opening.

You will observe that I am not using any clamps either for the stomach or the intestine. I consider such mechanical contrivances in performing this operation as superfluous, or in the

way. When we open the stomach and upper part of the intestinal canal in making our incisions, we find the organs are not completely emptied. There is no need for such mechanical barriers as clamps or tying the intestine above the proposed line of visceral incision. We have made a row of Lembert stitches, and are now ready to make incisions into the stomach and the upper part of the ileum near the junction of the ileum with the jejunum. It will hence be a gastroileostomy. You see now the junction as we have made it so far. We will pack off the abdominal incision carefully, so that there will be absolutely no possibility of the entrance of material which might escape either from the stomach or intestine. I shall make the incision without any fear of contaminating the peritoneal cavity. I was particularly anxious, as you doubtless observed, in exposing the stomach and intestines to find the proper intestinal loop, because it has happened to many surgeons that patients have died afterward of inanition, and post-mortem examinations have disclosed an opening near the ileocæcal valve. Hahn has taught us how to grasp the proper intestinal loop by looking for and finding the duodenal fold. I have never been able to do this, although he does it and is an expert in that matter.

The average surgeon will find it is necessary to eviscerate to a certain extent in order to locate the desirable loop of bowel between which and the stomach the anastomotic opening should be established. I will first make the incision in the stomach, and I am doing this at a point a safe distance from the sutures that have already been inserted, making the incision two inches in length. Notice what happens now. I have incised the serosa and the muscular coat. The mucous coat projects from the incision with the large vessels between the muscularis and the mucous coat. I grasp now the mucous coat, and through the incision made I am in the stomach. I shall enlarge the opening through the mucous coat to correspond with the size of the external incision. The incision will be two inches in length. The stomach is practically empty. The small amount of fluid that escapes is now caught in the sponge. What escapes is more blood than anything else, because the stomach was carefully washed out prior to the administration of the anesthetic. My finger is now in the stomach. I will explore the pylorus. I am within reach of the carcinoma. I touch the carcinoma, and I am in the pylorus now. I find the pylorus hardly permeable. I cannot insert the tip of my index-finger into it, and I doubt if I could introduce the tip of my little finger. The pylorus is almost obliterated. I make a visceral incision in the bowel. Notice how the mucous membrane becomes everted. I will now make an incision in the ileum;

I hold the everted mucous membrane a little to one side, and now incise the bowel to the same extent as the stomach. I have cut down to the mucous membrane, which already bulges into the wound, which will be picked up with forceps and incised separately. We hold up now the mucous membrane which I will incise. I have opened into the intestine and find that it is practically empty. The incision in the bowel is two inches in length, corresponding with the length and location of the visceral incision in the stomach. The Lembert stitches are already in place behind the visceral incisions. All I have to do now is to suture everything with the exception of the peritoneum. This will be done. I bring the two angles first together, and I use for this purpose the same needle. I take the angle of the wound in the small intestine and the angle of the wound in the stomach and bring them together. You will see the application of my first Czerny stitch; then we have to suture the corresponding mucous margins together. You will notice that the mucous membrane of the stomach bulges beautifully. I grasp the mucous membrane of the ileum, now of the stomach, and as I am suturing a ridge forms which projects into the lumen of the stomach and the ileum. The mucous membrane is everted on both sides, forming a ridge, and in that position we now suture them together. The Czerny sutures can be tied quite tightly, while the serous stitches must be tied with sufficient firmness to approximate the serosa. The deep stitches will cut through and be eliminated with the feces through the alimentary canal.

We are not working for time in performing this operation. Suturing of the stomach is a delicate and important task; every little mistake that is made in the technique of the operation might prove serious, hence great care is necessary. I am approaching the opposite angle of the visceral incisions. I am placing the sutures close enough so that the two rows will absolutely preclude the escape of either gas or fluid. One more stitch and the posterior suture will be completed. Watch carefully what will follow next. I am taking exactly the angle of each wound. The stitch resembles the first in every respect. Here is the exact angle. In suturing in front I have first to apply the Czerny stitch. The deep suture is applied first; we turn the opposite margin of the visceral incision. I am now inserting the deep stitches in front. We are now inserting the Lembert stitches. Remember, behind is the preliminary row of Lembert stitches before making the visceral incision, the deep row of Czerny stitches being in front. I am bringing together the mucous membrane. The wound is in excellent position for easy and safe suturing. I aim to exclude the serous surface, which is more readily done on the stomach side

than on the side of the intestine. I grasp the margin of the bowel so as to insert the sutures properly, placing the suture about every third or fourth of an inch. You will see, when I complete the first row of anterior sutures, a space between the mucous membrane and the muscular coat. We will bury the deep sutures with superficial or Lembert stitches. These should be cut short, because if they should project between the two and the superficial stitches they would act like a capillary drain and become a source of danger. They must be buried completely out of sight.

I have sutured about one-half of the wounds now. We are in the habit of making the opening very much larger now than when gastroenterostomy was first performed. We have learned clinically that these openings were liable to become constricted, so that the opening should be at least two inches in length, and in this case we have such an opening. In suturing I am careful to distribute the wound margins properly, so that there will be no folding of any portion of the intestinal wall or the wall of the stomach. It must come out evenly. You can see very nicely the mucous membrane on both sides. I am approaching the angle of the wound, and here is an important point where the greatest mistakes are made. Accurate coaptation is so essential, because leakage is most liable to occur at the angles of the visceral wounds. I will see if this suturing has been properly done. I find no sign of mucous membrane; the deep sutures are properly placed, and what you see now is the margin of the mucous membrane and the muscular wall. We shall begin to insert the Lembert stitch. I must have a clean needle and a clean thread, because we have been working on the lumen of the two organs. Our suturing extends far beyond the limits of the incisions made, and I will begin to suture now at a safe distance. Watch me carefully. The first stitch will be inserted at the point I show you. These are the typical Lembert stitches. I cross the space, grasp the stomach, and bury step by step the deep row of sutures. The Lembert suture is about the size of silk suture. I transfix the wall minus the mucous membrane in this way, cross the space, enter the wound in the stomach one-quarter of an inch away from the margin, transfix, and tie. You see how beautifully the margins of the wounds are becoming coaptated. I do not want to puncture any of the blood-vessels, so I cross at this point (indicating), and pick up the wall of the stomach, being careful to go deep enough, but not too deep, so as not to enter the lumen of the bowel. In teaching intestinal suturing, I find that students make the mistake of penetrating the bowel more frequently than any other. I am bringing together now the serous surfaces. The advice to avoid the subserous blood-vessels

is very important, because if I should puncture one of those large veins and meet with hemorrhage, it might be difficult to control. Notice how beautifully the sutured mucous membrane is shut out of sight by the Lembert stitches. The work of suturing is nearly completed.

When you do this operation be sure to have a long needle like the one I show you. Long needles are more easily handled than short ones. While the needle I am using is a little short, it nevertheless answers the purpose admirably. Here, again, I avoid blood-vessels of considerable size. I have made very little use of dissecting forceps, because the surgeon who relies on the needle in inserting Lembert stitches has very little use for forceps.

We are approaching now another angle of the wound. This operation ordinarily can be done in about twenty-five or thirty minutes, but I am taking additional time for the purpose of demonstrating to you the different steps of the operation. The stomach should now be drawn down a little, because I want to suture beyond the angle. The wound is nearly closed. I take a stitch here (indicating), grasp the stomach, and we have reached the angle of the wound. The wounds are safely sutured together, but to enhance the effect of suturing to prevent flexion of the bowel at the point of the communicating opening, I insert one or two additional sutures beyond the angles of the wounds. I will look the ground over once more; all that I have left is one more stitch beyond the angles of the wounds so as to have a long straight piece of intestine with the communicating opening to prevent spur formation and the establishment of what has been described by the Germans as the "vicious circle."

The operation now is completed. Gas has entered the intestine. We will wash the parts with hot saline solution before reduction. The intestine is now full, gas having entered from the stomach into the intestinal loop. There has been little, if any, contamination, but nevertheless we wash the parts thoroughly with gauze sponges moistened with hot saline solution. We are ready to remove the compresses and then reduce the sutured viscera. That is done in this way: Here is the large omentum; I reduce first the stomach, now the intestinal loops, and spread over them the great omentum. Reduction has now been made. I will ask the assistant to remove the compress with which we prevent the escape of the abdominal contents, and then we will be ready for the suturing. This compress keeps the parts in perfect position. The assistant will now insert the deep sutures of silkworm-gut, including everything with the exception of the peritoneum. The peritoneum will be sutured separately with fine silk, and the sheath of the recti muscles with catgut of medium

size. The interrupted sutures will be tied, and finally the skin will be united with horsehair sutures, after which we shall apply the usual absorbent aseptic compress bandage.

ADVANCED TUBERCULOSIS OF THE KNEE-JOINT.

The next case is a rather sad one. The patient was admitted to the hospital two or three weeks ago with far-advanced tuberculosis of the knee-joint, with the formation of large para-articular abscesses, which were infected with pus and putrefactive bacteria. He was the subject at that time of progressive sepsis. I opened these large abscesses, drained them thoroughly, and immobilized the limb. We resorted to repeated antiseptic flushings, and the symptoms promptly improved. For a time we thought there was a possibility of not only saving life, but the limb. In the latter respect we have been disappointed; owing to the extent of the tubercular disease of the knee-joint and the critical condition of the patient, we have not deemed it prudent to resort to typical resection, feeling sure under the existing circumstances that such an operation would prove fatal. We have made diligent use of flushings, but the suppuration from these large abscesses and from the disorganized knee-joint, the extent of which has become very apparent indeed, has been so great, together with diminution of lateral motion of the leg, that the patient himself has requested the performance of a mutilating operation. It is an amputation of the thigh, which is the only proper course to pursue when conservative measures fail and the tubercular foci remain, and we are not in a position to eliminate the immediate or remote effects of the complicating pyogenic infection.

I shall therefore have to perform on this patient high amputation of the thigh. I am extremely anxious to furnish him with a stump which will admit of the comfortable wearing of an artificial limb. You will again witness, as you have done before, a somewhat atypical method of amputation, with a view to gaining or rather saving healthy tissue. If I were to make in this case a typical Bruns amputation, I should amputate at about a level with the trochanter minor, doing a high subtrochanteric amputation; consequently the patient would have, as far as the wearing of an artificial limb is concerned, a useless stump. I find, however, by studying carefully the vicinity of the tubercular and pus foci that I can obtain a long flap from the inner aspect of the limb. It is on this side (right) that I shall be able to obtain a long oval flap from the anterior and inner aspect of the thigh, using the outer surface of the thigh for a short flap, so that I will bring the level of the amputation up to about this point, making a

stump sufficiently long for the comfortable wearing of an artificial limb. The limb has now been constricted with Esmarch's elastic constrictor; we have disinfected the field of operation thoroughly, but as you see from the condition of the parts to be operated upon, absolute disinfection is out of the question. If I should seal up these openings on both sides and take most of the flap above that level, I should have to make inevitably a high amputation. We shall wash the parts once more with alcohol, and I will carefully inspect the field for the formation of the long oval anterior flap.

This patient is in a very critical condition, and we have prepared him by giving a number of rectal enemata of salt solution, and immediately before the anesthetic was commenced strychnine, the same as in the other case. I now make a long flap, and I include in it not only the skin but the superficial and deep fascia. I carry the incision up this way (illustrating), rounding off the flap to make half of the posterior flap at once. I will make the incision to complete the flap on the opposite side. We carry the flap around in the fascia and make a short posterior flap. I will reflect the cutaneous flap. I include in these flaps the deep fascia covering the muscles. That I deem of considerable importance, and it is a point that is not dwelt upon sufficiently in text-books. I am depriving the deep muscles of their fascial covering, and this insures an additional blood-supply, and at the same time prevents retraction of the flap. We find the tissues at the point of amputation very edematous, showing the effects of the chronic infective process, which has been very deep. I will reflect the short flap taken from the opposite side, and again I am careful to include the fascial covering. We have not used the amputating knife as yet. We will now. I am ready to cut through the muscle tissue, and this we will do with the ordinary scalpel. We divide the muscles a little obliquely from below upward so as to make a kind of muscle cone. I have divided all the muscle tissue down to the periosteum. I make another incision through the periosteum, a circular one, so as to make a periosteal cuff, which I now reflect with a periosteal elevator in the manner I show you. On this I place great stress so as to furnish a proper envelope for the bone. We reflect the periosteal covering. If the assistant will simply drag the tissues upward with a compress, we can then apply the saw safely. This having been done I will now proceed to saw through the bone. There is no need here of using a bone-cutting forceps; there is no splintering of the bone. We can bring the periosteal cuff over the sawn surfaces, and that part of the operation will be perfect.

It remains now to look for the principal blood-vessels, the femoral artery and the accompanying veins. I separate these

vessels to the extent of about half an inch, and apply a double ligature of absorbable material—catgut. I apply the first ligature about one-quarter of an inch above the grasped point, make sure of tying a square knot, and being doubly sure that I tie it three times. I apply another ligature about one-quarter of an inch away from this one, but higher up, so as to secure between the two ligatures a bloodless space. We have a stump here three-quarters of an inch long; I draw upon the ligatures to approximate with sufficient firmness and the vessels are secured. For the purpose of preventing the formation of amputation neuroma, we have grasped the sciatic nerve, which I isolate for about an inch, and I see there is a high division here. Here you will notice the peroneal nerve. I take hold of these nerves, draw the ends down, and cut off an inch and a half of both nerves.

We will remove the elastic constrictor when I have determined whether or not the flaps have been made right. If there is any difficulty in that direction, now is the time to correct the error. I will ligate the intermuscular branch that has been recognized and seized. It is well to look for these intermuscular branches, and the place to look for them is in the intermuscular septum. I have an idea that when we remove the constrictor we shall find no blood-vessels requiring ligature. I will first see whether my flaps are right, and I would like to have you use your own judgment in regard to that. You see how beautifully the stump is covered when I bring the flaps together. There is no surplus, and the flaps are amply long. We have no corrections to make. We have compressed the wound for the purpose of minimizing the amount of parenchymatous hemorrhage. I compress now the surface tightly with both of my hands, holding the stump in this fashion until the first arterial waves have subsided. We make use of surface compression to minimize the amount of capillary or parenchymatous oozing. That the femoral artery has been secured is evident, because there is no appreciable hemorrhage as yet. I now uncover the surface gradually, and whatever small branches are found bleeding will be caught. I find a little intermuscular branch which will be caught. Two ligatures will be applied to the rest of the surface. There has been very little hemorrhage, but the patient is in such a condition that the loss of each drop of blood must be carefully prevented. The femoral can be seen pulsating, so that we can watch the rapidity of the pulse.

I want to show you the essential points in the treatment of the stump. It is well to douche the surface with hot saline solution, which will do much toward promptly arresting surface bleeding. It is one thing to amputate a limb, but it is another

thing of equal importance, if not more so, to take proper care of the stump. There are some surgeons who make a great display in performing an amputation, but they do not exercise the necessary care to secure for the patient that which is so desirable, namely, a useful, painless stump. We are making every effort here to do so, and the first thing you will see is to cover the sawn surface of the bone with the periosteal cuff that I have made. I can do this with one or two rows of buried sutures. I will now draw the periosteal cuff over the end of the bone. The suture is directly over the center of the bone. I am including in the needle a little of the muscular tissue outside of the periosteum, and after the application of one more stitch we will not be able to see any longer the sawn end of the bone. It is now out of sight; the bone is properly covered.

For the purpose of preventing undue retraction of the cut muscles that have suddenly lost one point of anchorage, I will resort to muscle suturing, but before doing so I will make a little buttonhole through which to establish drainage, and I am cutting through at the base of the short flap near its middle. You should never drain through the amputation wound if you can avoid it. I draw the drainage-tube through the little buttonhole I have made, and will now cut off the drain near the surface of the skin and secure it in position with a safety-pin. I am going to anchor now the extensors and flexors by making use of heavy catgut in suturing the muscles. I grasp the flexors, in front the extensors, and I want to make use of a large mattress suture; so I reverse the direction of the suture, grasp the strong flexors of the outer side, and we have the large mattress suture in place which, on being tied, will bring the muscles together, drawing right over the end of the bone in the manner you observe. This secures not only temporary anchorage, but prevents undue muscle retraction with its consequent painful twitching. The muscles are now properly secured.

All that remains now to be done is to suture the flaps together. I will ask the assistant to distribute the flaps equally, then we will put in a central stitch in this manner (indicating), one stitch here, and divide this one-half again equally to avoid corrugation of the margins as much as possible. We have now a beautiful looking stump. A large dressing will be applied, and to prevent slipping of the dressing strips of adhesive plaster will be applied over it, so that it will be impossible for the dressing to become displaced. Over the dressing will be applied a well-fitting, well-padded posterior hollow splint, which will give additional support to the muscles and secure rest for the stump.

GONORRHEAL SYNOVITIS.

While two patients are being anesthetized I will evacuate and inject a gonorrheal knee-joint. The patient is a sailor by occupation, and contracted specific urethritis a long time ago. In this case we have what is known as gonorrheal synovitis, which has resisted all medicinal treatment that has been resorted to up to date, including prolonged hospital treatment at the Marine Hospital. I fear that probably the nature of the synovitis has been overlooked. There are only two agents I place any confidence in in the management of gonorrheal synovitis with effusion, and those are tapping and antiseptic intra-articular medication and the internal administration of potassic iodide, the latter suggested and extensively used with the most brilliant success by Prof. Max Schiller. The combined internal use of potassic iodide in rebellious cases, with direct treatment of the gonorrheal affection by tapping and the intra-articular irrigation, you will witness now.

In this case the disease is limited to one knee-joint. I am going to inject a three-per-cent solution of carbolic acid. I find that strong enough, and I have reason to expect that one or two punctures, followed by irrigation, and the injection of a three-per-cent solution of carbolic acid, will bring about a permanent change for the better. We will not call it a cure. The physical evidences of a moderate effusion into the knee-joint are evident in this case.

I will now select the point of puncture, which is the outer border of the patella near its upper margin. I slide the skin to one side, make pressure over the inner aspect of the joint, tilt the patella, and plunge the trocar in at the point indicated, pushing through the skin in the direction of the center of the patella where the instrument rests, so that I am in the cavity of the joint. I withdraw the stylet, and we are evacuating what we expected, a moderate amount of ordinary synovial fluid. There are no flocculi in the fluid. I make compression so as to make the evacuation as thorough as possible. By tilting the cannula downward the escape of the fluid is free.

The synovial membrane in this case is very vascular, consequently in examining the fluid we find it mixed with a little hemorrhage. This hemorrhage was undoubtedly caused by puncturing some of the vessels of the synovial membrane. We have the ordinary injection apparatus charged with a three-per-cent solution of carbolic acid; we shall make connection between it and the cannula, watch the column, being careful not to inject any atmospheric air. We will see if any fluid escapes. If not, we

will allow the carbolic acid to remain in the joint, withdraw the cannula, and seal the little puncture with collodion.

TUBERCULAR GLANDS OF THE NECK.

In the next two cases I present to you curettage was performed for tubercular glands of the neck. In this case I understand that Professor Graham opened widely a large tubercular abscess of the neck, evacuated its contents, and sutured the incision, with a very good result. I find now that a very large gland here is palpable, and I propose to reopen the wound and remove the gland either by enucleation or active curettage. By performing this operation we shall expedite very much the definitive healing of the wound and protect the patient against progressive infection of the cervical glands in a proximal direction. I will reopen the wound now and feel for the enlarged gland. I find I shall have to enlarge my incision in order to secure better access to the gland to be removed by scraping. I reflect the skin over the sternocleidomastoid, and you now see the tubercular tissue. I have opened the tubercular focus here freely, and am now removing a part of the sternocleidomastoid which has become infiltrated by the tubercular process. We have now excellent access to what remains of the tubercular gland. I shall use the sharp spoon rather vigorously, and I am now scraping out quite a large portion of the involved gland. You will notice a deep cavity underneath the sternocleidomastoid. The first thing to be done now is to pour into the cavity peroxide of hydrogen, followed by irrigation with a five-per-cent solution of carbolic acid, the cavity thoroughly cleansed, dried, and iodoformized. We will suture the incision in this case only in part. We will tampon the cavity, pouring into it iodoform-glycerin emulsion. We insert one strip of iodoform gauze, bring it out at the lower angle of the wound, and suture it to the point you see.

The next case is one of relapsing tuberculosis involving the glands of the neck near the sternoclavicular joint. This is a very aggravated case. Repeated operations have been performed, followed by decided marked local relapse. The glandular mass I feel is situated along the line of the sternocleidomastoid. I will explore the fistulous tract, open it with director and knife so as to render the glands more readily accessible. There is no sinus leading up to the first gland. I can now make use of my finger in guiding the sharp spoon to the proper place. I find another sinus which leads in a different direction, so it will become necessary for me to expose these tracts freely by the vigorous use of the sharp spoon. We have united all of these fistulous tracts, and I find there is considerable undermining in the direction of the

supraclavicular fossa, so I will lay that open freely. You will notice that I am commencing to scrape out these fistulous tracts, removing the remnants of tubercular glands. The scraping is an important procedure, and unless I succeed in removing all of the tubercular material a repetition of the operation will be almost inevitable. I am very anxious to scrape very thoroughly along the inner margin and underneath the sternocleidomastoid, a locality whence the whole chain of tubercular glands is located. The communicating tract requires likewise thorough scraping. I find another opening in this locality which requires attention. I will enlarge this opening to the necessary extent, utilizing Kocher's director as a guide. We shall disinfect all of these scraped cavities first with peroxide of hydrogen, then with a 95-per-cent solution of carbolic acid, drying, and pouring into them iodoform-glycerin emulsion, tampon very lightly with strips of iodoform gauze, and apply over all of them the same common dressing. This is a case in which there has been traumatic dissemination of the tubercular process over the recent wound surfaces. All of the sinuses are lined throughout with tubercular granulations. We will now resort to very thorough, vigorous curettage, and treat the cavities as I have explained.

LYMPHANGITIS.

This case of lymphangitis I showed you at the last clinic. It has terminated in the way that I predicted, and that you will see now. From an infection atrium at the base of the toes, superficial ulcers, the pathological process has extended up to near the groin. We found two points where the lymphangitis was most severe—that is, above the ankle-joint, and on the thigh above the apex of Scarpa's triangle. This perilymphangitic abscess has opened spontaneously, but the abscess above the apex of Scarpa's triangle I will incise now. I am very anxious to make a gelatin culture, because I am satisfied that we shall find as the essential microbic cause of this progressive lymphangitis the streptococcus pyogenes. We will therefore evacuate the pus into a sterile receptacle through the incision I now make. We will reapply the hot moist antiseptic dressing, and it is very easy to predict a speedy recovery of the patient because there are no indications of further proximal extension of the disease. If the glands below Poupart's ligament should become enlarged and eventually suppurate, we would have what is known as a suppurative perilymphangitis.

THE MEDICAL AGE.

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EDITORIAL ARTICLES.

THE PROFESSIONAL INCOME.

It was asserted within the hearing of the writer not long since that the splendid advancement of the medical sciences and surgery within the past half century had been seriously marred by the increase in value of professional services. Nor was this all, it being further said that the growth in importance of specialism had—for the reason already given—been of little or no benefit to the great mass of the people. The medical code was quoted as a badge of the profession's surrender to commercialism.

There is no need to exploit on these pages the utter falseness of imputations such as these, for the general practitioner and the specialist are alike taught that science knows neither class nor condition among men, but that its life, vitality, and progress are bound up in the welfare of all. Nor is it necessary to show by set forms that an infinitely higher type of service and skill than the past has known should, by natural law, establish itself on an ascending plane of value. And no one in his right mind will deny the privilege and duty of the able to abide by the real worth of whatever they receive; while professional interest and common-lot humanitarianism stand between the rest of the people and their separation from the benefits of increasing knowledge.

Few if any physicians are totally spared the embarrassment which proceeds from the insinuation on the part of a patient or his family that a charge regularly made is not fully justified. It is especially annoying when one reflects that his service could not be understood and appreciated even were the will present. He may perhaps be called a refined product of an age possessed by a greed for gain, and placed upon his mettle to withstand the blunt but cutting charge.

As a matter of fact, every age is apt to win for itself a distinctive form, not always with notable accuracy as to its characteristics, and always with undue prominence of what are merely incidental features. But the descriptive phrase once applied is tolerably sure to cling to the period as long as men are enamored of glittering generalities.

Instead of viewing with misgivings what is hinted or said to the contrary, every physician owes it to himself and his fellows to sustain in every-day practice his convictions on these points. We may at times generously vary the letter while preserving the spirit. But the dignity and responsibility of his calling bid him to rate his services according to the accepted standards of his profession.

There was a time when men were more content than now. The lesson of subordination had been well taught. Each one strove to emulate the virtues of his fathers, and was content with the conditions of life in which he was reared. What was good enough for his ancestors was good enough for him; he had few wants and fewer ambitions. His love of increase was a minor, paltry greed, exhausting itself on low desires and small needs.

But public education has come; books have multiplied; newspapers and weightier periodicals have become a power; ideas are diffused; barriers have been thrown down; and restlessness and aspiration implanted. Men no longer rest contented, because the progressive intelligence has been awakened, their faculties stimulated, their moral forces set in motion, their whole natures stirred Culture and education have created a desire for the rewards of life, and at the same time have given the means whereby they may be attained.

The period of increased values for increased service is, therefore, nothing more than a prime product of advanced civilization. Having filled the people with hope and shown them that the best the world affords is accessible to the strong will and firm hand; having invited emulation, enterprise, and struggle, under the banner of the gospel of equality—having done all this, we are suddenly appalled by some small passions incidentally aroused.

It does not become us to say that evil does not pertain to present conditions of things. The world is not wise enough to pursue its ends with judgment and wise discrimination. But it is well to bear in mind that while some evil comes of this disposition there also comes much good. Personal aspiration has been a powerful factor in the uplift of life. It has led to the discovery of continents, has populated wildernesses, covered the seas with ships, and made civilization what it is.

All things considered, a profession rightly animated by a wholesome sense of its own value will achieve greater success in every department of its effort than a profession buried in sluggish content. Instead of countenancing the pessimist's view, we should regard the opposite as a most important factor in further development. There is an intimate and vital relationship between responsibility and worth of service.

ITEMS AND NOTES.

Typhoid fever is said to be increasing in Chicago.

Helena, Montana, is to have a new hospital at a cost of $50,000.

American growers are said to have cornered this year's crop of opium.

The City Board of Health in New Orleans has started a crusade against mosquitoes.

It has been decided by the authorities in Victoria that a sick voter can record his vote by post.

Dr. Brubacher, a German physician, declares that 72.5 per cent of dyspeptics have unsound teeth.

In Germany, from 1899 to 1900, no fewer than 126 new remedies were placed upon the market.

The American Association of Orificial Surgeons will hold its next annual meeting in Chicago, September 18 and 19, 1901.

The New Jersey Grand Council of the Royal Arcanum has decided to refuse insurance to all persons who reject, refuse, or neglect the aid of medical science.

The French government has appropriated 100,000 francs to defray the expenses of an expedition to the United States for the study of yellow fever in this country.

A circular has been issued by General Wood, governor of Cuba, strictly prohibiting the sale at the Cuban post exchanges of beverages containing any percentage whatever of alcohol.

Dr. S. H. Hodgson, of the U. S. Marine Hospital Service, stationed at Progreso, Mexico, in a recent report suggests an investigation of the cedron seed as a cure for yellow fever.

The antispitting ordinance is said to be strictly enforced in a number of southern cities, while in northern cities, notably Pittsburg and Buffalo, they find it difficult to enforce ordinances.

Dr. Doty, health officer of New York City, has decided to conduct some experimental tests as to the best method of exterminating mosquitoes, and Staten Island has been selected for the tests.

Professor His, of Munich, celebrated his seventieth birthday on July 9. His greatest work was on the anatomy of the human embryo, and his studies on the nerve cells opened the way for the discoveries of Golgi, Ramon y Cajal, and others.

A Chicago hypnotist, according to the *Journal of the American Medical Association,* who applied to the mayor for a permit to bury a young man alive while in a hypnotic state, has been summoned to appear before the State Board of Health on the charge of falsely representing himself to be a physician. His name does not appear on the list of registered physicians.

A despatch from Rome, says the *Medical Record,* states that Pope Leo XIII. entertained eight guests at luncheon in the Vatican on July 4, in honor of his physicians, Drs. Lapponi and Nazzoni. Although the Pontiff has occupied the chair of St. Peter for twenty-three years, it is said that he had never before entertained any one at his table. In accordance with Vatican etiquette, the Pope's guests sat at a table in the center of the dining-room, the Pope sitting alone at a table in an alcove window.

The next annual meeting of the Mississippi Valley Medical Association, under the presidency of Dr. A. H. Cordier, of Kansas City, bids fair to eclipse all previous ones in attendance as well as scientific merit, as the following preliminary programme will show. Unusual railroad rates have been obtained for this meeting—a one-fare rate by way of Cleveland, which will enable those taking advantage of these rates to obtain an extension of tickets to October 8 for attendance upon the Buffalo Exposition. A one-and-a-third-fare rate on the certificate plan will be in effect via Detroit, Sandusky, and Toledo, with extension of return limit for only three days after the meeting. Put-in-Bay is an ideal place of meeting, the Hotel Victory a magnificent meeting site. The address in medicine will be made by Dr. Frank Billings, of Chicago; the address in surgery by Dr. Reginald Sayre, of New York City. The association is to be congratulated on the selection of these two orators, who will acquit themselves in a most scholarly manner. The annual banquet will be held on the evening of the first day, September 12; the second evening will be given up to the reading of several papers with stereopticon exhibits and demonstrations; the President's address and the annual orations being delivered on the three mornings of the meeting. The profession is cordially invited to attend this meeting. No title can be received after August 20 for publication on the final programme.

NEW PUBLICATIONS.

OPERATIVE SURGERY.

The first volume of Bryant's Surgery has already been in the hands of the medical reader for some time. He will therefore be prepared to welcome the appearance of the second volume. This contains some important chapters, especially those dealing with operations on viscera connected with the peritoneum and operations on the urinary bladder. Professor Bryant's method of describing surgical operations is very attractive. He thoroughly describes all the principal methods of doing an operation, giving the reader the full benefit of other people's conclusions besides his own. The work is very amply illustrated with woodcuts illustrating operative technique, and also the necessary instruments. The work will be found to be a useful and popular one for students and practitioners of surgery.

Operative Surgery. By Joseph D. Bryant, M.D., etc. Volume II. This Volume Contains Eight Hundred and Twenty-seven Illustrations, Forty of which are Colored. New York: D. Appleton & Co., 1901.

OBSTETRIC DIAGNOSIS AND TREATMENT.

The wonderful lithographic illustrations with which this atlas abounds make it quite unique as an obstetrical manual. It must not be imagined that the text is not of equal value. The work will be found invaluable as an aid to understanding the technique of obstetrical operations.

Atlas and Epitome of Obstetric Diagnosis and Treatment. By Dr. O. Shaeffer, of Heidelberg. From the Second Revised German Edition. Edited by J. Clifton Edgar, M.D., Professor of Obstetrics and Clinical Midwifery, Cornell University Medical School. With 122 Colored Figures on 56 plates, 38 Other Illustrations, and 317 pages of Text. Cloth, $3.00 net. Philadelphia and London: W. B. Saunders & Co., 1901.

PANAMA AND THE SIERRAS.

The well known ability of Dr. Lydston as a narrator, combined with no ordinary faculty of literary expression, has made the author's sketches of his travels in the South more than ordinarily interesting. The author has made good use of his "wander days," and made them occasions of mental and bodily refreshment.

Panama and the Sierras: A Doctor's Wander Days. By G. Frank Lydston, M.D. Illustrated from the Author's Original Photographs. Chicago: The Riverton Press, 1900.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Errors in the Diagnosis of Appendicitis.

Brewer (*Annals of Surgery*, May, 1901), in a recent communication to the New York Surgical Society, alluded to the frequency with which errors are made in the diagnosis of intra-abdominal inflammations, and to the fact that in the majority of instances of this kind the error has consisted in mistaking atypical forms of appendicitis for other morbid conditions. Full reports are given of eleven cases in which, in the course of eighteen months, Brewer made the mistake of regarding as appendicitis conditions which, upon operation or necropsy, were shown to be other and unsuspected pathological processes. These cases are classified as follows: In two the symptoms were found to be due to renal calculus; in four to diseases of the uterine appendages; in one to sarcoma of the ileum; in one to cholecystitis; in one to acute suppurative pancreatitis; and in two to general sepsis.

In the discussion of this paper McCosh stated that those engaged in gynecological work are often much puzzled to distinguish between suppurative conditions of the tubes and ovaries and those of the appendix. Sometimes, it was asserted, it is quite impossible to make a correct diagnosis before the abdomen has been opened, and even then it may be difficult to determine the primary seat of the trouble. It was pointed out by this speaker that in cases of general suppurative peritonitis the appendix is usually presumed to be the origin of the infective mischief. In male subjects this, in his opinion, is probably the case in nineteen instances out of twenty; but in the female there is not this almost constant relation, as the pelvic organs or the stomach are at times found to be at fault.

Gunshot Wound of the Bladder.

The *Münchener Medicinische Wochenschrift* of July 19, 1901, contains the report of a case of gunshot wound of the bladder by Dr. Bayerl. A little boy, aged eight, was accidentally shot by his brother by a small pistol. Examination revealed a small roundish opening just above the os pubis, the borders being bruised and blackened. The opening led to a small canal passing to the right,

which could be followed a distance of five centimeters. The bullet could not be found. From the opening trickled a small quantity of watery fluid (urine), slightly mixed with blood. The boy complained of strong desire to micturate. The next day matters had improved so much that clear urine was passed spontaneously from the urethra, but the next day they became worse again. There was great restlessness and excitement, violent pain in the scrotum with swelling, swelling at the fundus of the bladder, vesicular swelling at the root of the penis, and fever. No urine came through the wound. There was, therefore, infiltration of urine. A number of incisions were now made in the scrotum, penis, etc., and a good deal of urine escaped through the wounds. The pain ceased, however, and the swelling and fever subsided. Three days later the bullet was found in the dressings. Recovery with healing of the wounds now speedily followed, without any necessity for further surgical procedures.

Extirpation of the Gasserian Ganglion.

Professor Krause (*Münch. Med. Woch.*, Nos. 27 and 28, 1901) reports twenty-seven patients treated for excruciating trigeminal neuralgia. Several had suffered for over twenty years, but all have been cured without having a trace of neuralgia since. The first cases were operated on in 1893. The author ligates the middle meningeal artery, which takes but a few seconds, to avoid complications. The time required for the operation depends greatly upon the amount of hemorrhage; one operation lasted three hours. The average time was one and one-quarter hours. By scarifying the bone about fifteen minutes is saved. Three patients died—one in a few hours from shock, an old debilitated woman, and one with chronic nephritis. To prevent paralysis of the lower lid Krause cuts parallel with the fibers of the facial nerve. The cornea is protected for a few weeks. Neuralgic pains have occurred in several on the other side, but on the side of the operation the only complaints have been twitching and itching.

Removal of Fish-bones from the Throat.

Max Breitung (*Münch. Med. Woch.*, July 9, 1901) reports the case of a man who three days after having swallowed a fish-bone came to him for relief. The throat was considerably swollen, there was difficulty in swallowing, and the patient complained of pain on the right side near the thyroid cartilage.

No sign of a foreign body could be detected with or without the laryngoscope. Breitung introduced his finger, and after feeling about found a sharp point on the surface of the right tonsil. Upon illumination a small white speck could be seen, which might easily have been taken for a little mucus. With forceps the piece of bone was withdrawn.

The author believes that palpation is an important adjunct in finding sharp foreign bodies in the throat. The sensation of the patient is only of value as to the side in which the foreign body is located; complaint is generally made of its presence much deeper than it usually is.

MEDICINE.

Blood-pressure in Fevers.

Federn, in an address before the Vienna "Gesellschaft" (*Medical Press,* July 17, 1901), said that scarlatina, cholera, and malaria have always a high blood-pressure, and in scarlatina the higher the pressure the more severe the attack, probably owing to the early cardiac hypertrophy not being maintained.

On the other hand, influenza can be diagnosed by the low blood-pressure, being 50 to 60 millimeters of mercury, or 1.9 to 2.36 inches. Eight years ago he pointed this out from the intestinal symptom, which seemed to point to dilatation of the vessels of the bowel. The only other disease that might be confounded with this low pressure is icterus, which may be differentiated by the color of the skin, conjunctiva, etc.

In the recent epidemics of influenza, antipyrin, phenacetine, salipyrin, etc., were used as specifics, which looks rather anomalous when we consider that it relieves the pain in febrile or non-febrile conditions, and that these drugs are supposed to act through their depression of the arterial system. The curative action of these drugs in influenza rests on the physiological fact that they dilate the small arterial vessels, which are greatly constricted by the influenzal toxin, and thus diminish the resistance to the cardiac efforts, which are also weakened by the toxin. The first effect of the influenzal poison is expended on the heart and vascular circulation, giving rise to a multiplicity of symptoms such as fatigue, headache, etc.; and according to the severity or otherwise of the hematic symptom some patients suffer from a variety of symptoms not met with in others, such as brain affections, others from muscular troubles, while a third may have only a bowel lesion.

The primary cause is the toxin, as the simple interference with the cardiac movement would not so affect the muscles, while the slow recovery from the bradycardia, often lasting a year, confirms this opinion.

The prognosis in disease can also be gauged by the blood-pressure with approximate accuracy. In diseases of high pressure the danger is greatest in elderly people, and when not fatal may so irritate the vasomotor centers as to produce arteriosclerosis. It has been affirmed that the opposite condition produces calcification of the vessels, but this is incorrect, although normal blood-pressure not infrequently produces arteriosclerosis.

The treatment of influenza is correctly carried out with antineuralgics and antipyretics in order to relieve the blood-pressure. Purgatives also relieve the atony of the bowel.

Pneumothorax Produced by Sneezing.

Stiller (*Wien. Med. Woch.*, May 4, 1901) was summoned to a young man, whom he had treated shortly before for nervous dyspepsia. He was half-sitting, half-lying on the bed, and groaning loudly. An hour previously a violent sneeze had produced the most unbearable abdominal pain. He had been brought home in a cab, and had dragged himself up to the third story, though suffering greatly. Inspection revealed that the whole of the upper part of the abdomen was enormously distended by a large tumor. Over this area there was dulness to percussion. This proved to be the liver, which had become luxated from the diaphragm and forced downward and inward, and at the same time rotated forward until its lower border reached the umbilicus. The right side of the thorax was distended and immovable. Over it percussion was resonant, but not tympanitic, and vocal fremitus was abolished. There was amphoric breathing everywhere, but no metallic phenomena or Hippocratic succussion. The heart's apex was in the left anterior axillary line. The pain quickly yielded to an injection of morphine, and on the following day the liver had returned almost to its normal position.

A week later there were no traces of pneumothorax or of anything abnormal. There was never any pleural effusion. Dislocation of the liver by the pressure of a pneumothorax is probably unique, and for its production it must be assumed that the communication between the lung and the pleural cavity was of a valvular nature, so that air escaped during inspiration into the pleural cavity, but was prevented from returning during expiration. When the intrapleural pressure reached a certain point the valve

would no longer be able to open, and the fact that the air was absorbed so rapidly proves that this mechanical closure was soon replaced by an organized cicatrix. The lungs were certainly healthy. Except for the slight digestive disturbances the man had never been ill, and neither before nor after the accident could anything be discovered amiss. As a sneeze was the cause the pneumothorax must have occurred during an expiratory effort. The case somewhat resembles one in which the pneumothorax was produced in a healthy man by a fit of laughter.—*British Medical Journal,* July 20, 1901.

Headache.

A. H. Copeman (*Lancet,* July 20, 1901) says that intracranial headaches may be briefly classified as follows: (1) Headache the result of gross lesions of the brain or of the vessels or membranes of the brain; (2) headache occurring at the onset of the acute fevers, especially that of typhoid fever; (3) congestive headache; (4) anemic headache; (5) nervous headache; (6) toxemic headache; (7) sympathetic or reflex headache; and (8) migraine or sick-headache.

The writer says that headache the result of brain lesions and acute fevers is usually associated with other symptoms pointing to the gravity of its origin, and in such cases it is obviously the duty of the physician to fix his attention less on the headache itself than on the disease of which it is a symptom.

Congestive headache may be either active or passive. Both conditions may be produced by valvular disease of the heart: active congestion being the result of hypertrophy of the left ventricle, as in the headache of chronic interstitial nephritis; passive congestion occurring in lesions of the mitral orifice and conditions leading to dilatation of the right heart.

Nervous headache is the headache of general debility and neurasthenia, and may be caused by overlactation and worry in weakly women, excessive study, overapplication to business, and the excesses of youth.

The writer says that migraine or sick-headache is the most intractable of all forms of functional headache, and has been the subject of endless dispute amongst pathologists, and is now generally thought to be due either to a so-called nerve-storm of the nature of epilepsy or to some other ill-defined disturbance in the cortex of the brain.

The Principles of Diagnosis of Lesions of the Spinal Cord.

J. Punton (*Medical Record,* August 3, 1901) says that in summarizing the various steps that constitute the principles of diagnosis of lesions of the cord, we find they can be arranged as follows:

1. Determine whether the symptoms are due to a lesion affecting the spinal cord by reference to your knowledge of the function of its several parts, thus excluding those symptoms due purely to cerebral or peripheral lesions.

2. Next determine whether the symptoms are due to an organic or to a functional lesion, or are simply produced by malingering. This can usually be done by careful methodical examination of all parts involved in the process, together with a study of the mode of onset of the symptoms, their duration, nature, and character, and other facts connected with the family, personal, and clinical history of the case.

3. Next determine the exact location of the lesion, whether it be extra-medullary, intra-medullary, systemic, or non-systemic in its invasion. This calls for ability to interpret correctly the nature and character of the symptoms produced by these lesions, taken in conjunction with their causes and the known liability of certain structures to such lesions.

4. When all these questions are correctly answered we are then prepared to make our diagnosis, and upon this the prognosis and treatment are based.

Fusel-oil Poisoning.

From the study of the effects of the administration of fusel oil to dogs, and from the observations on two cases of fusel-oil poisoning, the following conclusions may be drawn, according to T. B. Futcher (*American Medicine,* Aug. 10, 1901):

1. Fusel oil, when administered to animals, causes the elimination in the urine of combined glycuronic acid, which reduces alkaline, copper, and bismuth solutions, and acts as a levorotation to polarized rays.

2. When taken by men it acts as a profound intoxicant, causing unconsciousness of several hours' duration.

3. In one of the cases it was followed by symptoms of hemiplegia.

4. In certain cases, as in Case 1, fusel oil is a profound blood destroyer and causes methemoglobinuria.

5. In both cases it caused transitory nephritis.

6. In both patients a glycosuria lasting two or three days was produced.

7. In the two cases there was fairly conclusive evidence that combined glycuronic acid (gepaarte Glukuronsäure) was present in additon to glucose.

THERAPEUTICS.

Treatment of Chronic Endometritis in General Practice.

Menge (*Medical Press,* July 31, 1901) believes the reason why this disease is so much neglected by the general practitioner lies in the want of technical dexterity. The writer was led by this conviction to search out a method of treatment that would be equally useful in all forms of the disease, that would be as free from danger as possible, and that would demand the least possible amount of manual procedures. The treatment should admit of being carried out rapidly in the consulting-room, and without previous dilatation of the cervix. After touching upon the usual methods of treatment, he proceeded to describe that practiced by himself, which in the course of years has proved to answer all the requirements both on the side of the general practitioner and of the patient. A solution of formalin, from 30 to 50 per cent in strength, has proved a useful and non-painful intra-uterine applicaton. For the purpose of applying such a solution he has had constructed a smooth, hard-rubber sound, thinner toward the end, armed with a thin layer of absorbent cotton to a distance of forty centimeters, and kept for use in a cylinder filled with the formalin solution. The caustic is never applied after a bimanual examination, but always some days afterward. It is applied in the following way: A freshly boiled Trelat or Neugebauer speculum is introduced into the vagina. After the os is found it is wiped with a pledget soaked in perchloride solution. The anterior lip of the uterus is now hooked for the purpose of steadying it, not to draw it down. Two or three formalin sounds are now introduced one after the other and passed in all directions, so that the bottom of all the folds of mucous surface shall be reached. A strip of gauze is now introduced for the purpose of draining the cavity of superfluous fluid. In the early part of the treatment it is best to wait until the mucous surface is renewed before applying the caustic a second time. Later on, however, it may be applied at intervals of a week.

The formalin caustic has a beneficial effect in chronic endometritis whether following labor or abortion, provided that no placental remains are *in utero*. These should not be burned off with

the caustic, but after one or two applications they should be removed with the curette. Post-gonorrheal endometritis may often be cured in this way after very few applications, provided general treatment be kept up at the same time. If, on the other hand, the endometritis is due to general disturbance, but little is to be expected from local treatment. There must be a rational combination of general and local treatment in some cases. He mentions the contra-indication to the treatment, which will be obvious to any one who gives the matter a thought. When there is malignant change in the endometrium the treatment is inadvisable.

Treatment of Leg Ulcers.

Walbaum (*Münch. Med. Woch.*, No. 26, 1901) describes what he claims a most successful treatment as follows: After a thorough washing of the leg with green soap, wet dressings of aluminum acetate are applied daily until the secretion has lessened and the odor has greatly diminished, which generally takes two or three days. From now on every other day a compress wet with camphor wine (G. P.) is applied. Over the compress is laid a piece of dry gauze and a piece of rubber dam, the edges of which do not overlap the gauze and come in contact with the skin. The whole is now covered with absorbent cotton and a bandage. The ulcers heal quickly, often in less than three weeks.

Treatment of Whooping-cough.

Dr. Theodore Zangger (*Lancet*, July 20, 1901) has issued a *résumé* of upwards of one hundred cases treated principally by preparations of quinine, which in the later cases was combined with hydrotherapeutic measures. The cases referred to were children under six years of age, the youngest being two, five, and eight weeks respectively. There was no fatal case observed, though five cases came under treatment with single pneumonia, sometimes of a very severe type. The number of paroxysms of whooping-cough never exceeded thirty-two in twenty-four hours, and they decreased rapidly during the second week of treatment. The general state of health on discharge, generally after two, three, or four weeks of treatment, was often so good that a change of air seemed unnecessary. Tannate of quinine proved of little effect; the best results were obtained from hydrochlorate of quinine dissolved in water and administered in milk in doses of from one to

three grains three times a day before meals, according to the age of the patient. Very good results were also obtained from the exhibition of euchinin in the form of a powder, which has the advantage of being almost tasteless and can more readily be administered to children. The dose varied from two to six grains two or three times a day before meals. Wet packs reaching from the armpits to the ankles had a very soothing effect, when properly applied and well covered with flannel, and were left on for two or three hours or for the whole night; in case of concomitant pneumonia they can be renewed several times in twenty-four hours.

RHINOLOGY AND LARYNGOLOGY.

UNDER THE DIRECTION OF WADSWORTH WARREN, M.D.

Brain Abscess as a Result of Frontal Sinus Empyema.

This case, reported by Linden, of Finland (*Internat. Centralblatt für Laryngol.*, vol. xvii, No. 7), presented a clear history of a fatal abscess of the brain originating from a chronic frontal sinus empyema, though it is to be regretted that the longitudinal sinus was not examined post mortem to trace the course of the infection.

The patient, a man forty years of age, had suffered with chronic rhinitis from childhood, and during the last five years from irregular intermittent attacks of intense pain in the left temporal region. The pain usually lasted about twenty-four hours; it then disappeared for weeks or months at a time. On December 18, 1899, he had an attack of intense pain accompanied by a chill and fever. Pressure over the supraorbital nerve caused intense pain. No discharge from the nose. The pain remained unchanged for four days, then an erysipelatous blush appeared in the temporal region extending up to the hair border on the scalp; temperature 39° to 40° C., pulse 110. The disease continued with remissions and intermissions from January 10 to 22; the temperature and pulse were normal. Later there occurred vomiting and blunting of the sensorium. Somnolence gradually became more profound, and the patient died January 30, 1900.

A thick-walled abscess six centimeters in diameter was found in the left frontal region. On the posterior wall of the frontal sinus of the left side sequestration of a strip of bone two centime-

ters in length had begun, and to this strip the dura and pia were firmly adherent, though there was no direct connection between the brain abscess and the sinus.

OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,

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Ophthalmia Neonatorum.

John E. Weeks (*New York State Journal of Medicine*, August, 1901) believes the rationale of the treatment of ophthalmia neonatorum will be better understood if the following facts are borne in mind:

1. The lacrimal fluid is secreted but little during the first month of the life of the child.

2. In infants the conjunctiva of the lids is more severely affected than the conjunctiva of the eyeball.

3. The gonococcus grows more rapidly at a temperature ranging from 96° to 110° F., but grows very slowly at a temperature of 92° F. The same rule applies to the growth of the bacillus of acute contagious conjunctivitis. The Klebs-Loeffler bacillus and the pneumococcus are not so sensitive.

4. The temperature of the conjunctival sac ranges from 97.5° F. (an approximately normal condition) to 102° F., according to the severity of the inflammatory process affecting the conjunctiva.

5. By making cold applications to the lids the temperature of the conjunctival sac can be reduced from 94° to 88°, depending on the thickness of the lids.

6. The condition of the infant has a decided bearing on the results of the inflammation of the conjunctiva. A robust, well child is much more likely to recover without permanent injury to the organ of vision.

Weeks begins the treatment by employing a one-per-cent solution of silver nitrate, which is applied directly to the entire surface of the conjunctiva once daily. The conjunctival sac is cleansed frequently, the more so because of the absence of tears, a three-per-cent solution of boric acid being the most desirable solution for this purpose. With the child resting on the lap of an attendant and the head between the knees of the operator, the lids are gently separated and the solution permitted to run into the eye from a piece of absorbent cotton or slowly from a pipette or undine, care

being observed not to press on the eyeball or to abrade the surface of the cornea. In the acute stage the cold applications should be made continuously from one to four hours at a time, repeated three times daily. Pledgets of linen or small pads of absorbent cotton moistened and laid on a cake of ice may be employed. When the swelling subsides the employment of the cold compresses should be discontinued. General improvement in the child's condition should be brought about.

The author reminds us that prophylactic measures will prevent, to a very great extent, the occurrence of ophthalmia neonatorum, and pleads that a drop of a two-per-cent solution of silver nitrate be dropped into the eyes of the infant, at once after birth, in all cases where exposure is suspected.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
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Spurious Vaccinia.

In a paper read before the Medical Society of City Hospital Alumni (reported in the *St. Louis Courier of Medicine,* June, 1901) Dr. Joseph Grindon, of St. Louis, Mo., recognizes the existence and clinical characters of the following forms of spurious vaccinia:

1. Red tubercles, the size of peas, which afterward suppurate. This form was very common in St. Louis some years ago and has been observed within the last year. The little tumors may persist for weeks.

2. A non-umbilicated but acuminated or conoidal vesicle, commencing with much irritation and itching, containing straw-colored or opaque instead of clear lymph. The areola is completed on the fifth or sixth day, beginning to decline on the eighth day, and the scab falls off by the tenth.

3. Instead of the usual vesicle a bleb sometimes forms, followed by troublesome ulceration.

4. A crop of herpetic vesicles, preceded by shivering and accompanied by intolerable itching and enlargement of axillary glands. The bursting of the vesicles is followed by an eczematous inflammation.

5. Occasionally vesicles which have apparently run a normal course up to the eighth or tenth day suddenly rupture and are followed by ulceration which extends both in depth and peripherally. These cause much local and constitutional disturbance.

Of course, any of these events calls for revaccination.

The Treatment of Cutaneous Cancer by Electrolysis.

In discussing the above paper (reported in the *Journal of the American Medical Association,* July 13, 1901) Dr. W. T. Corlett, of Cleveland, said: "I have of late years selected electrolysis almost exclusively in the treatment of epitheliomata. I believe it presents many advantages over other methods and even that advocated by Dr. Heidingsfeld. I can further say for electrolysis that it is extremely satisfactory, and while I do not advocate any exclusive method, believing the special requirements of the case should always be considered, yet as I have observed the results attained by surgeons, the results are to me quite convincing that the methods resorted to by dermatologists are, as a rule, more lasting than when the knife is exclusively used. The method of employing electrolysis is extremely simple; anybody can do it with patience and a little skill. I often use an ordinary McIntosh battery of eighteen cells, which is sufficient to supply electricity for an ordinary operation, lasting twenty minutes to an hour. The patient must first be anesthetized, and when the lesion is small he may be discharged as soon as he comes out of the anesthetic. Very little, if any, after-treatment is necessary. Of a large number of cases, some of which had existed many years, the diagnosis having been confirmed by microscopic examination, in only one instance, so far as I have been able to ascertain, has the growth returned. In this case the disease had developed beyond the point when any operation holds out much hope."

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

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The Treatment of Puerperal Infection.

At the meeting of the Paris Academy of Medicine, held on July 9, M. Budin (*Lancet,* July 27, 1901) gave a description of the method of treating puerperal infection as used by him since

1892. In the normal puerperium involution of the uterus takes place quickly, so that after a few days the internal os is closed. But if the uterine mucosa has been infected the underlying muscular fibers are paralyzed and there is no difficulty in passing the finger into the uterine cavity. This abnormal permeability of the uterus is of great importance from a diagnostic point of view. For thorough cleansing the patient must be deeply anesthetized and the uterus curetted with the finger. The cavity must also be mopped out with fairly large swabs. Facts go to show that the cleansing of the interior of the uterus can be very thorough. According to M. Budin, if fever supervene in a woman recently confined and clots are found in the uterus, they should be removed whether stinking or not, and if this is followed by washing out the uterus possibly sufficient will have been done. If, however, the uterine mucosa is infected, especially at the placental site, digital curetting and swabbing must be carried out.

Recovery is generally rapid if treatment has been entered upon at an early stage. If the infection has lasted for some days recovery is very slow, for both the germs and their toxins have entered the system. Recovery has been known to occur even in apparently desperate cases, but death sometimes supervenes. Another consequence results from these facts—*i. e.*, should a woman be confined or should she abort, if the amniotic fluid is fetid and some days have elapsed since the rupture of the membranes, digital curetting and swabbing should be carried out one after the other as a prophylactic measure (*nettoyage prophylactique*). At the Tarnier clinic there are some isolation beds into which women are taken who have become infected either outside the hospital or within its walls. During the last academic year, from November 1, 1900, to June 30, 1901, thirty-three infected patients were admitted from outside. In four of these cases uterine injections after digital exploration resulted in recovery. In thirteen cases *nettoyage prophylactique* was performed, and in sixteen digital curetting and swabbing were done. Only one woman succumbed, who had come in from Choisy-le-Roi in a desperate condition eight days after her confinement. Of patients already in the hospital, fifty-nine became infected and were sent to the isolation wards; all recovered. The total number of cases for the term was 1137 confinements or abortions taking place in the clinic, with no deaths from infection. M. Budin, while allowing that the death-rate for the term under review was exceptionally light, considers that his methods have a great deal to recommend them.

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ORIGINAL CONTRIBUTIONS.

DIFFERENTIATION OF VALVULAR CARDIAC MURMURS.*

BY FRANK C. WILSON, M.D.,

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We have several cases of valvular disease of the heart present this morning, and we cannot become too familiar with the various features of these cases and the methods of differentiating one from the other; nor can we recall too often the effects of valvular lesions upon the circulation itself and upon the various organs largely controlled by the circulation.

The first patient is a male, aged seventy-five years; occupation actor; family history good; mother died at the age of eighty-five years; father died at thirty-nine; one brother is living; one sister is living and one sister is dead. He tells us that his sister died of "dropsy" superinduced by cancer of the breast, and that his mother died of old age. We must remember that dropsy is merely a symptom; we might as well say that a person died of "redness" as to say that she died of "dropsy." As I have suggested on former occasions, dropsy is an effusion of serum from the blood-vessels and depends upon obstruction to the circulation somewhere, so it is a mere symptom. He says that his sister was sick four or five years; that during the last fourteen months of her life she was tapped three times, and during this time her mother drew off forty-three gallons of water; finally a metal tube was inserted, and her mother drew the water off whenever necessary. This accumulation of fluid, from his description, was most likely in the peritoneal cavity, and fluid accumulation there depends usually upon some obstruction to the circulation of the liver. Of course,

*Clinical lecture delivered at the Hospital College of Medicine.

we have no information about the habits of the patient, or of any condition which might produce this obstruction; we do not know whether she had any heart trouble. We are told that she had some edema of the feet and legs, that she had inflammatory rheumatism, which may have involved the heart and induced a trouble which gave rise to the dropsy.

This patient says he has been the subject of inflammatory rheumatism; the last time he had it, he tells us, was in 1865; he has had a number of attacks of inflammatory rheumatism from the time he was twelve years old, which would go from one joint to another. This is a peculiar characteristic of inflammatory rheumatism; it is migratory. Another feature is that it usually affects corresponding joints: if it affects the ankle-joint of one side, it is apt to involve also the opposite ankle, etc. The same inflammatory process is likely to involve the endocardial membrane, and in the progress of this inflammation it is apt to produce serious damage to and involve the structures of the heart. In the course of the inflammation involving the serous membrane there is an inflammatory exudation poured out, the interlacing fibrinous filaments in various directions contract in the process of organization, and, whether they are infiltrated or otherwise, the valve curtains are warped out of shape and afterwards fail to fit properly. These valve curtains in their healthy condition will fit perfectly and prevent the regurgitation of blood, even to a single drop, when they close, but after they have become twisted, warped, misshapen, as a result of this organized inflammatory exudation, they fail to fit together properly, fail to prevent the regurgitation of blood, and there is a backward flow of the current through these valves, leading to long-drawn-out after-effects which are sometimes manifested years afterwards.

One point, to which I wish to direct your attention as illustrated by this case, is that it is not absolutely necessary that the patient even be aware of the existence of inflammation involving the lining membrane of the heart. I have no doubt in this case in the course of rheumatism which involved the joints there was a metastasis—that is, a transferring of the inflammation from some of the joints to the heart tissue, to the endocardial membrane—and it did its work there and brought about the after-results now seen; yet the patient does not describe it to us, nor was he aware at the time of any inconvenience. It is very different from an inflammation involving the pericardial membrane. The patient could not have inflammation of the pericardium without being made very painfully aware of it. You will find this is one of the diagnostic symptoms of differentiation between endocardial and pericardial inflammation. In pericardial inflammation, when you go into the

patient's room you recognize at once, by the painful, anxious expression of his countenance, that he is suffering from a serious malady. There is an exceedingly painful and anxious expression, the patient perhaps lying with his hands over his heart, evidently his whole attention being drawn to that because of the severity of the pain he is experiencing. When you further investigate the case, you will find that the pericardium is inflamed and sensitive, and the rubbing of the surfaces upon each other gives rise to a sharp, stinging, lancinating pain. It contrasts, as I have said, markedly with the absence of pain which you find in endocardial cases. A patient may have a severe endocarditis without being made aware of it, so far as the disease itself is concerned. It may go on and do its damage, injuring the valves of the heart, go through its course, and get well—that is, the inflammation may subside, leaving the structures so damaged as to lead to serious after-results, yet the patient will not be aware of its existence at all. I have seen many cases of this kind, and in watching the course of rheumatism have seen cases where the heart became involved, yet the patient never had his attention drawn to it by the occurrence of any pain.

This case emphasizes another point—*i. e.,* the importance of the physician himself, who is in attendance upon the case, watching the condition of the heart throughout the entire course of the rheumatism. Do not wait for the patient to call your attention to the condition of the heart, or depend upon him for information relative to the heart's action, but know from your own observation the condition of the heart from the time of your first until your last visit. Watch it from time to time with the view of determining whether there is any heart lesion; that you may recognize the presence or absence of any abnormal sounds in connection with the heart's action; that you may recognize at once whenever the inflammation has involved the lining membrane of the heart, and is bringing about its results in that membrane and in the valves over which the membrane is reflected.

Another point is the importance of examining the heart at your first visit. I have spoken of this repeatedly, and never omit to refer to the importance of it—that you examine the heart and know its exact condition at your first visit. Whenever you are called to see a case of rheumatism, do not allow that first visit to pass, do not leave your patient, until you know of your own knowledge the actual condition of the heart—that is, whether the heart is in a damaged condition at that time or not, whether possibly in some previous attack of rheumatism the heart may have been damaged or crippled. I give you this advice not only for the advantage of your patient, but also for your own advantage. Suppose you have

been in attendance upon a case for a week, and at the end of the week, either incidentally or because your attention has been drawn to it by complaint made by the patient of some inconvenience in the heart's action, you then examine it for the first time. You have for a week been attending the patient every day, yet you have no knowledge of the condition of the heart, and your attention then may be called to it. Why, you cannot tell, and never will be able to say, whether the heart was crippled by the attack of rheumatism which occurred previously, or whether it is recent in its origin, whether it has occurred since you have been attending the case. It puts you in a very embarrassing position to have to admit that you do not know when the involvement of the heart occurred. Now, you may be still further humiliated. Suppose the case does not seem to progress favorably and the family ask you to call in a consulting physician; he comes, and observes, perhaps for the first time, that the heart is involved—at least it has not been observed by yourself during your attendance upon the case. He therefore asks you when this involvement occurred, and you will be obliged to admit to him, and perhaps to the family who may be present, that you do not know when it occurred. I cannot conceive of anything more humiliating to the physician than that. Therefore, follow the advice which I have given you, and which I desire strongly to impress upon you—*i.e.*, never let your first visit to a case of rheumatism pass without your having acquired a knowledge from your own personal observation as to the exact condition of the patient's heart, whether it is crippled or whether it is sound. Suppose you had examined that case at your first visit and had observed that the heart's action was perfectly normal, that there was no valvular murmur, that there were no abnormal sounds in connection with the heart's action, that the heart sounds were clear, distinct, regular, and normal in their character; then, if you afterwards discovered any abnormal action of the heart or any abnormal sound connected with the heart, you could be assured positively that the condition was of recent origin and had occurred since your first visit. You can see what advantage there would be not only to the patient in your conduct and treatment of the case, but also to your own standing both with the family and with any consulting physician that might be called in. If you are able to say, "The heart was in good condition at my first visit; I have watched it carefully from day to day, and two or three days ago I noticed this abnormal sound just developing, gradually increasing from day to day," you can see with how much greater respect that physician would look upon you. You would be able to maintain your own self-respect and your good standing in the eyes of the physician and in the eyes of the family and others.

Another point to which we may refer as illustrated by a case of this kind is that you may meet with diseased valves of the heart, giving rise to abnormal sounds, in which you will not be able to elicit any history of articular rheumatism. There may never have been any rheumatic affection involving the joints. In other words, the disease may attack primarily the endocardium without involving any of the joints. Occasionally we meet with such cases.

This man tells us that he has had repeated attacks of articular rheumatism. In the course of some of these attacks the endocardium became involved in this rheumatic affection, and now we find its effects in a misshapen, warped, or twisted condition of one or more of the valves of the heart, which allows a regurgitation or produces an obstruction of the blood current. As you can readily understand, this will bring about physical signs which will indicate to us exactly what the condition of the orifices may be, what abnormal sounds or murmurs may be present in the case; then, of course, we can judge what the actual conditions of the orifices and valves may be which bring about these abnormal sounds.

Physical examination: On palpation we are not able to detect any fremitus. There is not much to be learned by percussion unless the heart is extremely enlarged. On auscultation we hear a murmur at the first sound of the heart. There is a distinct murmur, and we hear it with and following the first sound of the heart. This is one point, and we have fixed the time at which it is heard most distinctly, the time at which it occurs, viz., with the first sound of the heart. It might be a mitral regurgitant, a tricuspid regurgitant, an aortic stenotic, or a pulmonary stenotic murmur. We might have either one of the four forms which give rise to a sound which could be heard just at this time, and at the time the heart is contracting, the systolic action of the heart. We might have either one of four separate conditions which would give rise to a murmur. A twisting or warping of the mitral valve would allow regurgitation of the blood in a backward direction, or a similar condition of the tricuspid valve, or a stenotic obstruction of the aortic orifice, which would interfere with the passage of blood in a forward direction, or a similar condition of the pulmonary orifice. Which one of these four conditions is present in the case before us? In order to differentiate between these four conditions, we have first to ascertain where we hear the sound most distinctly. It is heard to the left of the sternum just below the nipple, perhaps one inch below the nipple, and near the apex-beat. This is the exact point at which the sound is most distinctly heard. That fixes it, then, as being produced at the mitral orifice. Any sounds that are made at the mitral orifice are conducted down to that

point more distinctly than they radiate in any other direction. The sound is heard more distinctly at this point than at the surface immediately over the valve. The sounds are conducted down in that direction because of the conduction afforded by the little chordæ tendinæ, which are attached to the margin of the mitral valves, and then along the muscular cords to the end of the heart. The sounds are thereby conducted down to a little circle near the apex of the heart more distinctly than anywhere else. Whenever you hear a sound at that point, which is called the mitral area, you know it is produced at the mitral valve. You have previously ascertained that the murmur is produced at the time the heart contracts.

We have now ascertained that the sound is produced at the mitral valve; we know that it is made at the time the heart contracts, therefore we know the mitral orifices are closed at that time, and we know further that any sound produced at that time must be caused by the valves not fitting properly. In other words, there is a mitral insufficiency because of a warped condition of these mitral valves.

Suppose, on the other hand, instead of hearing the sound as we do in the mitral area, that we heard it further to the right, down near the ensiform cartilage, where would the murmur be produced? When you detect sounds at the ensiform cartilage or to the right of the apex-beat, where are they produced? At the tricuspid valves; the sounds that are made at these valves reach the surface of the chest over the ensiform cartilage, or in an area located near the ensiform cartilage. If we heard the sound at that point in this case we would have a tricuspid murmur.

Suppose you heard the sound on the right side at the junction of the sternum and third costal cartilage more distinctly than elsewhere, then what would it be? Aortic stenosis; it would be produced at the aortic orifice of the heart at the time the heart contracts, the blood would be going through in the normal direction, and, of course, it would be an obstruction of the aortic orifice.

If you heard the sound most distinctly at the left edge of the sternum it would indicate pulmonary stenosis, produced by obstruction or constriction at the pulmonary orifice; the blood going through in the normal, forward direction, with a sound heard at the left edge of the sternum, it could only be a pulmonary murmur, a sound produced at the pulmonary orifice.

You will see that it is very little trouble to differentiate between the various heart sounds. In this case there is a well marked, distinct murmur. The patient has some cough and bronchitis besides. He coughs mostly in the morning, and there is considerable expectoration. No sound is heard at any of the other orifices of the

heart, indicating that the other valves are in a normal condition. Mitral regurgitant is the most common of all murmurs with which we meet.

Remember that there are four orifices in the heart, each one guarded by a valve, and that there may be a warping or twisting of the valve at each one of these four orifices. Or, on the other hand, there might be obstruction at either of these orifices, which would give rise to four other murmurs. We may have, then, two distinct murmurs at each one of the four orifices of the heart; it is possible to have eight murmurs in connection with the heart's action, either obstruction or insufficiency at either one of the orifices. As a matter of fact, the three which we will name constitute eight-tenths of all the heart murmurs with which we meet; the other two-tenths would be distributed between the other five murmurs. The three most common are mitral regurgitant, aortic stenotic, and aortic regurgitant.

What is the immediate effect of this regurgitation following the forward flow of the blood current? The pulse is due to the forward current of blood that is distributed to all parts of the system, among others to the radial artery, upon which you place your finger, and you feel the impulse imparted to your finger by the current of blood as it is forced through the radial artery under the contractive power or force of the heart's action. If only two-thirds or three-fourths of the amount of blood goes forward, of course that will affect the pulse to some extent; it will not be as full or forcible as if the remaining one-quarter of the blood current had gone forward in the normal direction. That would be one of the important effects of interference with the circulation, the backward flow of blood. That lack of blood would be felt in all parts of the system. You would have an insufficient blood-supply distributed to all parts of the system, and there would be some protest sent up to the central nervous system from the different parts of the general system because of the insufficient supply of blood. This would be the effect of the backward flow sending one-fourth of the total quantity of blood back into the auricle, thus overdistending it, taking the place of and interfering with the reception of blood that ought to be received by the left auricle. It will go still further, the blood will dam up, the entire pulmonary circulation will be interfered with simply because the heart cannot receive the blood. One-fourth the space of the auricle is already filled with this regurgitated blood, and there is interference with the reception of blood from the pulmonary circulation to that extent, and embarrassment of the pulmonary circulation as one of the effects of this regurgitation through the mitral valve.

This patient tells us he has had some cough. This may be due to a bronchitis, or may be the result of an overfilled, enlarged condition of the pulmonary circulation. Further back, of course, the pulmonary circulation is engorged, and the right ventricle will in its turn be unable to send blood forward owing to this impeded pulmonary circulation. As the pulmonary capillaries are already filled and engorged, of course the right side of the heart will have some difficulty in emptying itself, and it will become overdistended; then, still further back the right auricle becomes overfilled, simply because it cannot empty itself; still further back the superior vena cava is filled up and the entire venous system overfilled, and what will be the result? The blood-vessels will be stretched; the walls will become thinner, they will not hold the serous elements; there will be a transfusion of water, and an effusion, a dropsical accumulation in all the loose cellular tissues of the body, will result. This usually shows itself first in the feet, because the blood gravitates to the most dependent parts.

We have now traced out some of the after-effects of this obstructed circulation, this backward flow of blood. Nature is not going to stand by and witness all these effects without making some effort to counteract them. Where does nature make her efforts to correct this trouble? First there is a backward flow of blood through the mitral valve, then an accumulation of blood in the left auricle, then the pulmonary circulation is overfilled and enlarged, then the right ventricle meets with difficulty in sending its blood on through the pulmonary circulation; right there is where nature makes her first effort to overcome the trouble. When there is an engorged condition of the pulmonary circulation, nature cannot bring to bear any force there; but whenever the right ventricle is interfered with, if it meets with any obstruction to forcing the blood through the pulmonary circulation, then nature can bring to bear a little more force on the right ventricle. Nature can call upon the right ventricle to contract with a little more power, can send a more powerful nervous stimulus to the right ventricle, causing it to contract more forcibly, and that brings more pressure to bear upon the circulation, forcing the blood through the lungs on into the left auricle, then into the left ventricle, overcoming or compensating for this backward flow. Nature can frequently succeed in producing that compensation, overcoming this obstruction by increasing the force and power of the action of the right ventricle, sometimes for years, and the patient may go along in comparative comfort, showing no effects of the backward flow of blood. He may not have dropsy or any other manifestation from this overfilled ventricle and the damming up of the blood in the entire venous system for a considerable time.

The patient may be comparatively well as long as nature succeeds in fully compensating for the difficulty. The pulmonary circulation will be kept up under this increased pressure from the right ventricle, proper aeration of the blood will be accomplished, and the patient will be comfortable. There is also some effort on the part of nature in the left auricle, but the muscular tissue of the left auricle is so thin that nature cannot accomplish much at that point. In the right ventricle nature has a better chance to accomplish good, and she succeeds frequently in applying pressure that will accomplish compensation for a long time. The patient's comfort is a criterion as to the perfectness of the compensation. So long as the patient suffers little or no discomfort we know that nature is succeeding in accomplishing this compensation. We speak of it as compensatory hypertrophy from the very fact that nature tries to increase the force of the heart's action on the right side and compensate for or overcome the obstruction in this way, so that the act of increasing the force sends more stimulus, more active force, to the right side of the heart, and that very action of increasing the muscular activity of the heart brings about a hypertrophy. Hence we associate together compensation and overgrowth of the right side of the heart in our minds and look upon the two as the same; one is the effect of the other. The increased stimulus that is sent through the nervous system to the right side of the heart brings about a hypertrophy from development of its muscular structures. Nature always endeavors to overcome the difficulty by increasing the nutrition of the organ, so that hypertrophy is brought about; increase of muscular force and power, increase of the muscular fibers, is brought about simply as a result of the increased action, just as a blacksmith will develop his muscles by constant exercise of them, or an athlete will develop his muscles by constantly calling upon these muscles for increased action. So the heart will hypertrophy, will increase and develop simply from the increased action, and we have the right side taking on the process of hypertrophy, simply an increased development of the muscular walls of the right side of the heart from this increased call for activity entered through the nervous system, in the effort on the part of nature to compensate or overcome the obstruction due to regurgitation through the mitral valve.

In the management of these cases, so long as nature succeeds in accomplishing compensation no treatment is necessary; but after a time the obstruction due to the regurgitation may be so great that nature cannot overcome it, and the backward pressure extends beyond the right side of the heart into the general system, and the resulting evil consequences become apparent. Then it is that the physician comes in and stimulates the efforts of nature by remedies,

and the one that is most serviceable to us is digitalis. The effect of digitalis is first to make the action of the heart slower, and next to make its action more powerful, more even, and that is just what is needed in these cases. After nature does what she can in the way of overcoming the difficulty by increasing the force and power of the right ventricle, the case reaches a point beyond which nature cannot go; then she becomes crippled, and we find that the heart's action is clogged; nature loses her head, as it were, and in making an effort to send forward more blood to supply the system, which has been calling for the delivery of more blood to take the place of that which is thrown backward through the mitral valve, the other parts of the body through the central nervous system are calling continually for the delivery of more blood, and nature, in making an effort to respond, when she finds she cannot increase the force and power of the heart sufficiently to satisfy the demands of distant parts, seeks to respond by quickening the action of the heart; but in doing that she makes a mistake. In doing that she brings about an evil which is constantly increased, an evil which is due to shortening the period of rest of the heart. In order to bring about the necessary hypertrophy and development of the muscular walls of the heart, there must be a certain amount of nutriment consumed, there must be time enough to utilize that nutriment to repair the waste and worn-out material, and the only time in which this can be accomplished is during the period of rest between the beats of the heart. When the heart is in its flabby, relaxed condition, then it is quiet, and during this time the muscular walls of the heart are being repaired, the waste products removed, and new material added. If at the same time the heart is increasing in force and power, increasing the waste of muscular tissue; if at the same time the heart's action is quickened and the period of rest shortened, why, you can readily see that you take away the possibility of repairing the waste, which is increased in amount; you take away the opportunity for adding any new material. In other words, the heart is worn out just that much faster. Nature makes a mistake in this. Nature succeeds for a time in producing compensatory hypertrophy, keeping the patient in a comfortable condition; after a time a point is reached when nature does not succeed in producing this compensation; then distant parts of the system call for more blood, and nature quickens the action of the heart. Then she goes too far; she is unable to bring about further compensation, the patient begins to suffer, and the other evil consequences become apparent. Then it is that the physician can step in, and by the judicious use of digitalis can simply hold in check the rapid action of the heart, make its action slower, and at the same time add force and efficiency to its contractions and succeed in

accomplishing the necessary compensation. With a little assistance in that way the patient may go along in comparative comfort for months and even years. Then perhaps the patient, thinking he is well, may undertake some overexertion which deranges the action of the heart, and at the same time crowds the blood upon the lungs, producing discomfort; and besides that may counteract the beneficial effects which the physician and nature have succeeded in accomplishing, and the physician is again sent for to render assistance. Under these circumstances a careful increase in the amount of digitalis, or possibly, if the patient has been so comfortable that it has been left off entirely, a careful readministration of the remedy, may bring about this compensation and readjust the differences, and perhaps in the course of a week's treatment the adjustment will be acquired again, and the patient may then go along for months afterward without any further assistance, only to have the same thing recur time and again from some act of imprudence on his part.

Now that is the history of these cases. With careful conduct of themselves they go along perhaps for years or even for a long lifetime. I have known patients with serious valvular disease of the heart to live for forty or fifty years, and then die of some intercurrent affection. Strychnine contributes to the development and toning up of the muscular tissue of the heart. Tincture of digitalis and tincture of nux vomica are two of the most reliable agents we have to use in connection with the heart's action.

We will now examine this case again, and ascertain whether there is any involvement of the other valves of the heart. Trouble with the aortic valve is frequently associated with mitral regurgitation. We will listen at the right edge of the sternum, and if a murmur is heard most distinctly at that point we infer that it is made at the aortic orifice. We would have to determine at what time in connection with the heart's action the sound is most distinctly heard, and if it is at the same time that we hear the mitral murmur, then, of course, it would indicate obstruction at the aortic orifice. How would we confirm that? You follow these sounds in the direction of the blood current which is going toward the aorta and the carotid artery. The blood current, as it passes through the aortic orifice, through the aorta, and through the carotid artery, carries the sound with it. So we sometimes hear a mitral sound at the right edge of the sternum, not quite as distinctly as in the mitral area, as it radiates over in that direction; you can hear it even in the aortic area. You may not, therefore, be able to say positively that it is an aortic sound until you investigate whether you can trace it in the upward direction. Although you may hear the sound at

the right edge of the sternum, the aortic area, if you cannot hear it in the arch of the aorta or in the carotid artery you may infer that it cannot be an aortic obstruction, otherwise you could trace it upward. If you fail to trace it up into the carotid artery or into the arch of the aorta you infer that it is simply a radiation of the sound made at the mitral valve.

We will put this patient upon the tincture of nux vomica and tincture of digitalis and watch its effect from day to day, having him report to us as often as may be necessary.

THE RELATIONSHIP BETWEEN OCULAR AFFECTIONS AND SYSTEMIC DISEASES.

BY FRANK H. EDSALL, M.D., MADISON, WIS.

Not a great deal of attention has been paid to the connection between systemic affections and diseases of the eyes, and it may be of some interest to bring this subject before you to-day. It is, of course, not difficult to understand why organs so delicately adjusted in their functions and in their nutrition as are the eyes should participate in many of the derangements of the system in general, although these derangements may and commonly do manifest themselves differently here than in other portions of the anatomy. Certain affections, it is well known, are accompanied by ocular manifestations, as in brain lesions or in lesions of the cord there are often degenerative changes in the optic nerve. The connection between these associated conditions has been widely studied, and so much knowledge has been gained of the relationship which these intraocular conditions bear to the intracranial disease, that the appearances presented by the fundus of the eye participating in a cerebral disease furnish information of the highest importance in the diagnosis of the general disorder; thus in cerebral abscess the diagnosis is much facilitated by the presence of an optic neuritis; so also in intercerebral growths it is often possible to accurately localize the site of the growth by the relationship between retinal reaction and pupil reflex. The mechanism of this connection is too complex to make it possible or even desirable for me to enter into it within the limits of this necessarily brief paper. I mention these conditions as striking illustrations of the subject of the paper.

It enters into the experience of every physician to have observed the sequence of certain ocular ailments upon some constitutional affection, as, for example, in chronic Bright's disease. In a considerable percentage of cases of this affection, about

twenty per cent, I think, would be a conservative estimate, the eyes sooner or later show, either through impaired vision or through extreme sensitiveness or, better and with much greater precision, through the retinal inflammation and even in later stages, through the choroidal atrophy which is visible on ophthalmoscopic examination, their involvement in the pathologic process. As an illustration of this participation as it shows itself in chronic Bright's disease, permit me to call your attention to the following brief outline of the case of Mrs. M——, an active society woman who had been in ill health for an indefinite time, though never so ill as to incapacitate her, but suffered repeatedly from small ailments, as indigestion, headaches, occasional diarrhea, and the like, for which she would receive medical advice, but which her family physician scarcely thought deserving of serious consideration. Her eyes in time began to fail her, and upon examination the fundi were found studded with the macular retinal lesions characteristic of the ocular manifestations of Bright's disease. Acting on the information thus obtained, her medical adviser found abundant evidence of a chronic renal lesion which terminated her life within the ensuing eighteen months. This case is an instance of the rather exceptional experience of recent years, where chronic renal disease is first determined from the ocular condition. It was at one time thought the retinal trouble was an early symptom of chronic kidney disease, but careful investigations have shown that this is rarely true, and under the scrutiny of the microscope and of the searching analysis of the chemist, both of which are made use of at present in all obscure affections, the urine will commonly give evidence of the kidney affection before it has manifested itself in the eyes.

It is not always easy to show the causative connection between a given ocular trouble and the systemic condition which produces it, but in cases of retinitis from Bright's disease it is doubtless connected with the arterial sclerosis which is a fairly constant factor in chronic renal disease, and it doubtless is also sometimes toxic in character, due to the retention in the blood current of waste matter which the damaged kidneys can but imperfectly eliminate.

Similarly, in diabetes there is sometimes a diffuse retinitis or an amblyopia toxic in character. Likewise here there is not rarely the development of cataract, due to imperfect nutrition of the lens from impoverished blood-supply, as also the occurrence of or increase in an existing myopia from similar failure of nutrition of the sclerotic and cornea, as was instanced in the case of Mrs. J. T——, aged sixty, a large, fleshy woman who had been, within the last decade, more or less of a chronic invalid. Her attention was eventually directed to the fact that her vision for

distance had failed. Examination of the eyes disclosed the presence of a moderately high myopia with about one diopter of astigmatism. Glasses to correct this were satisfactory for a time, but examination at the end of about two years disclosed the presence of incipient cataract, which has since then advanced to nearly complete blindness. In her case urinalysis disclosed the presence of a considerable percentage of sugar in the urine, which undoubtedly stood in a causative relation to the various ocular manifestations.

So, too, in leukemia; from imperfect nutrition due to the lack of red blood-corpuscles, there is impaired functionating power of the retina, as in the case of Miss C——, aged thirty-eight, a stenographer, with a pronounced case of this affection, who one morning, after hastening to catch a street-car, found later that the vision of her left eye was greatly impaired, due, as an ophthalmoscopic examination showed, to several small retinal hemorrhages. The weakened walls of some of the vessels are unable to withstand the strain of the tumultuous action of the irritable heart, and small hemorrhages into the substance of the retina result.

Syphilis, it is well known, is protean in its effects upon the visual organs. In the secondary period it is chiefly limited in its effects, in so far as the eyes are concerned, to inflammations of the iris or to keratitis. These conditions are probably dependent upon the presence in the blood of the, as yet, undetermined bacillus which so indelibly brands the too ardent votaries at the shrine of Venus, or to a toxin which it may originate.

Syphilitic choroiditis is also a manifestation of this stage of the constitutional infection. It is unnecessary to cite instances of these conditions as they are all too common. There is nothing particularly characteristic of syphilitic iritis beyond the history of infection and the influence which mercury has upon its progress. Syphilitic keratitis is usually of the interstitial variety, and offers better hope of relief than when due to other causes. It is characterized by numerous pin-point specks throughout the cornea and shows little disposition to ulcerate. The choroidal affection found in this stage is also diffuse, there being no special point of election.

The later manifestations of ocular syphilis are those which might be expected to occur from the presence of gummata, either in the eye or external to it, but in contact with some of its related parts. These may find their seat either in the iris, along the optic tract, or in the lids. The mechanism of their production differs no whit from that in other situations.

Gonorrhea likewise produces a variety of iritis, but commonly it is more intractable, more resistant to treatment than syphilitic

iritis. It has been thought to have its exciting cause in the actual presence of the gonococcus in the blood current. Its victim is usually coincidentally the victim of gonorrheal rheumatism. An illustration of this is seen in the case of Dr. Z——, who, while on a visit to a city some seventy-five miles from his home, contracted gonorrhea. In spite of prompt treatment he shortly developed joint symptoms and was compelled to enter a hospital. Here in a few days he developed a violent iritis, which was ameliorated by treatment but failed to yield entirely, so that at the end of some six weeks' stay in the hospital, when his joint symptoms had somewhat diminished so that he was able to return home, his right eye was still the seat of active iritis.

In ordinary articular rheumatism iritis is a not uncommon accompaniment; so common is it in fact that it is really superfluous to cite an illustrative case. Its genesis is probably dependent upon an exactly similar action of the special toxic substance in the blood upon the iris, be it uric acid or what it may, to that which takes place in the joints producing plastic irritation in the serous linings of these parts. It is not, as a rule, a serious condition to combat; early and continued mydriasis, combined with appropriate treatment of the systemic affection, will overcome the ocular disturbance, thereby still further demonstrating its identity with the joint lesions.

In many diseases of the circulatory apparatus, as, for example, in exophthalmic goitre, the participation of the eyes in the general disorder can be seen of all men. The pathology of this affection is still too obscure, however, to hazard an opinion as to the way this is brought about.

In septicemia, eye lesions, such as retinal hemorrhages and even ocular neuritis, are often found. It is seemingly the case that these conditions arise from the action upon the blood-vessel walls of the septic bacteria circulating in the blood, or, as claimed by other observers, it is due rather to a toxin derived from these. As an instance of this condition permit me to mention the case of Maggie R——, aged eight, who suffered from mastoid disease arising from a neglected middle-ear abscess, the mastoid trouble being in turn overlooked for some time. Before proper treatment had been introduced she developed a metastatic abscess along the course of the external jugular vein of the affected side, with a septic clot in the jugular. Incision of the abscess evacuated a considerable quantity of foul pus, but this was not done till some weeks after the trouble had first shown itself, and after the pus-pocket had once or twice spontaneously partially emptied itself into the throat. There was before, and for some time subsequent to the instituting of surgical treatment, profound sepsis, and eventually some failure of vision, which ophthalmoscopic exam-

ination disclosed was due to an optic neuritis. This subsided eventually with little permanent damage to the visual organs.

I need scarcely mention the catarrhal conjunctivitis which is associated with measles. Every physician appreciates the relationship between the two conditions. It is but the manifestation in this situation of the general catarrhal state which, for some reason, the specific contagium of this affection develops. Affections of the optic nerve and of the retina have been reported as products of this systemic affection, but the direct relationship is obscure and the method of their causation is involved in doubt.

Scarlet fever is not commonly the cause of ocular trouble beyond the moderate conjunctivitis which is a usual accompaniment of these specific affections, excepting in some instances there is retinal inflammation, which is, however, probably more directly due to the renal complications which are so commonly associated with scarlet fever.

Of the local manifestations of diphtheria upon the conjunctivitis I will not speak, as the connection between this and the disease elsewhere is too obvious.

The paralysis of accommodation due to diphtheria is an interesting condition. Its pathology is identical with that of diphtheritic paralysis elsewhere. It is usually accompanied by paralysis of the sphincter of the iris, though this is not always the case. I can recall one case in which it was present. A young girl, whose home was in the country, was brought for examination because it had been discovered that she was unable to read since a few weeks previous to the visit. The left pupil was markedly larger than the right, and in both eyes there was complete ciliary palsy. The diagnosis was at first difficult, as the mother stated that the child had always been healthy. Close questioning elicited the fact that shortly before the paralysis occurred the child had had a sore throat for a few days, but had seemed scarcely ill enough to make a physician's services necessary, and the mother had herself treated her with some domestic remedies with eventual disappearance of the throat trouble. The cycloplegia eventually disappeared.

In influenza, aside from the catarrhal condition of the eyes, there is not uncommonly an optic neuritis, probably toxic in character. This is usually bilateral, though as in the case of Miss S——, aged thirty-four, who was attacked with the grippe during the epidemic of 1890, followed by ocular trouble, I found the right eye normal except for a moderate degree of astigmatism. In the left eye there was a moderate degree of neuritis. Vision after correction of the astigmatism in this eye was less than 20/30.

Severe cases of malarial intoxication not rarely exhibit eye symptoms both externally and in the fundus of the eyes. Ker-

atitis, dependent probably upon irritation of the trigeminal nerve, has been reported by several writers. Amblyopia, partial or complete, permanent or temporary, has been observed. This is due either to spasm of the retinal vessels, or to the presence in the blood of the plasmodium. It is sometimes difficult to determine whether in a given case it may not have been due to excessive doses of quinine rather than to the malarial toxemia.

Of the diseases of the optic nerve arising from the ingestion of any of the toxic substances which it has been shown are productive of eye complications I shall not speak, as this class of affections is scarcely within the scope of my paper, and with the affections due to diseases which are rarely or never seen in this climate, such as cholera, yellow fever, dengue, and the like, I shall not occupy your time. I have briefly mentioned such ocular disturbances as are commonly seen in the course of certain systemic affections, and while I have not ventured deeply into the pathology of these conditions I trust I have been successful in giving some idea of the manner of their occurrence.

THE CARE OF THE AGED.

BY EWING MARSHALL, M.D.,

Chairman Medical Board, Home for Friendless Women; Physician in charge P. E. Orphans' Home; Surgeon for Travelers' Insurance Company, etc., Louisville, Kentucky.

No subject should be more delicately handled than that of growing old. The number of years a man or woman has lived is no criterion as to his or her physical condition. The French adage that "A man is as old as his arteries" tells the story, especially if you include the heart as a part of the arterial system.

Temperance through youth and maturity certainly predisposes to longevity. A man though he has lived eighty years, if he has a good arterial system, has by no means outlived his usefulness.

It has been my pleasure and profit to come in contact with a number of such cases.

My next-door neighbor, eighty-seven years of age, trims his own vines and fruit trees; climbs upon ladders and does other things that most men of sixty would fear to attempt.

It may have simply been coincidence, but all of the hale, elderly people that I have come in contact with have partaken moderately of liquors, especially of wine with their meals.

Now my whole being revolts at intemperance, and a drunken man has my intensest pity, but I am convinced that moderation

*Reported to the Louisville Clinical Society.

in the use of liquor certainly does not diminish the chances for longevity. Of course age alone should not be the test, but the usefulness or the helplessness ought to weigh equally with us in our advice on this subject. A mental blank with a strong physical frame is a curse rather than a blessing.

Again I would say that temperate use of liquor has seemed to predispose not only to longevity but also to useful old age. Occupation is almost a *sine qua non*. As long as the mind and body have systematic use so long will their condition be predisposed to health. Mental and physical exercise alike should be used but not abused. Neither mind nor body is benefited by exhaustion at any period of life, and the best development comes from the greatest amount of exercise always short of exhaustion. Exhaustion is a menace, first, in that it may suddenly terminate the individual's existence, and secondly, that it may permanently cripple some organ. How frequently we see permanently injured hearts from imprudence practiced during convalescence from some taxing disease. We can equally imagine that other organs are injured in the same way though the power to demonstrate it is lacking. Probably many a great mental machine has been sacrificed by a too early return to severe mental labor after a debilitating disease. Much more must the aged be guarded from any form of exhaustion, as they have greatly reduced recuperative powers. Let me repeat, then, mental and physical exercise alike should be used but not abused.

Diet is a subject fraught with pitfalls. No iron-clad rules can be laid down. Individuals reaching an advanced life, as a rule, should not suddenly or greatly alter their way of living. Where they have been practically total abstainers from alcoholic liquors, and from one cause or another are without appetite, I question very much the propriety of making a false appetite with stimulants. All stimulants to the aged should be given in a guarded way; especially any tonics with nux vomica or its alkaloid strychnia in them. I believe many a hemorrhage into the brain or elsewhere has been superinduced by such measures. Their brittle vessels are not prepared for the sudden tension placed upon them. Where little or no exercise is taken, with a sluggish condition of the bowel, it becomes a burden for the system to have a great mass of material poured into the stomach. We sometimes see a morbid appetite in the aged as we do at other periods of life, but I always look on this boulimia as an index of some serious trouble that is brewing, and it sooner or later announces itself. Lack of appetite is a much less serious symptom with me, and generally by improving the action of the skin and bowel, and gradually increasing the mental and physical exercise, a proper appetite is restored.

As I said before, be very careful in the use of tonics and stimulants. The use of drugs in my hands is limited. The aged, like children, should be given as little in the way of drugs as possible. All are agreed that depressing medicines are borne badly by the aged, but I think stimulants equally dangerous remedies and should be handled with great care.

Drastic purgatives are contraindicated. Salines as a rule act kindly with them. The natural diuretic—*i. e.,* copious draughts of fluid—has to be watched. A sudden distention of their weakened vascular system will cause a rupture. This rupture may occur at a point where it will relieve the system without doing any serious harm, but it may occur into the brain or other organ, doing permanent injury if not causing immediate death.

Sudden changes in altitude are dangerous, and therefore travel, as a rule, should be abstained from. Likewise great changes in temperature and going from a dry to a humid climate may cause serious changes. All things being equal a dry, equable, moderate climate predisposes to longevity, but I would not move an aged person from the climate to which he is inured to either a warmer or colder climate, for that in itself would predispose to decay. Cleanliness with the aged like in children is of great benefit. Frequent sponging of the entire body is desirable, but the frequency of the all-over baths is to be determined by the habits of the individual. Extremes of temperature in the all-over baths must be guarded against. If the all-over bath is found exhausting it should be prohibited. Plenty of fresh air at all times is desired, but they should be protected both from draughts and sudden chilling of the body.

Many of the minor ailments, not only of the aged but at all periods of life, are superinduced by chilling of the body. In the extremes of life this must especially be looked after.

In the summer season frequently in this latitude we go to bed in sweltering heat, and about three or four o'clock in the morning there is a decided chill in the atmosphere. This is a period of the twenty-four hours full of danger to the extremes of life.

Sleep, the great restorer, in my opinion has more to do with longevity than any one thing. Other things being equal a good sleeper will outlast in any trial of life.

There is a dogma that no one, especially elderly people, should be allowed to sleep after eating. I do not believe it is tenable. I know of many cases where the individuals have had the habit of a nap after dinner, and yet not only lived to old age but showed only good effects from it.

I know the dictum that going to sleep on a full stomach predisposes to apoplexy. I believe it is one of the fallacies burdening the profession.

CORRESPONDENCE.

LETTER FROM LONDON.

(From a Special Correspondent.)

The medical profession of Great Britain does not seem to be greatly worried over the matter of ethics. In the presidential address of Dr. Ferguson he devotes to its consideration only these words: "In respect of medical ethics the case is very simple. Treat and think and speak of your brother practitioners as you would wish them to treat, and think, and speak of you." This amounts to no more than a professional application of the Golden Rule.

Considerable feeling was aroused among the delegates to the Tuberculosis Congress in London by the fact that after Koch had thrown his bombshell into the camp that was the last that was seen of him. He was heard of at the seaside at various times, but when his paper was the all-absorbing topic of discussion he was not to be found in or about the Congress.

The key-note of the president's address at the British Medical was the deficiency of the means of professional education in the United Kingdom, particularly as compared with America. It seems to be the fact that the English university system is not fitted to train keen thinkers as well as other systems. The main trouble seems to be that British universities relegate the teaching functions to persons only slightly connected with the governing heads, who in turn give degrees on the strength of their examinations proving what students have been able to learn from tutors or to pick up for themselves.

Much favorable comment was elicited at the Tuberculosis Congress by the supply of reprints of papers. As soon as an author began to read his paper printed copies were passed through the audience so that each hearer could follow the words of the speaker and conveniently make notes of passages that seemed of particular interest. Librettos are common enough in opera, but this experience shows they have their value in scientific assemblies.

The president of the British Medical is a firm believer in antitoxins, and feels that medical science is only on the threshold of that department of therapeutics. He looks to see at no late date serums for most of the febrile and infective diseases as satisfactory as the antidiphtheritic serum. Tuberculosis and cancer are the two greatest fields yet awaiting research on these lines.

The slower moving British mind stands aghast at what it calls "Yankee enterprise." When Koch announced his startling change of views in London one of the American delegates to the

Tuberculosis Congress, Dr. H. M. Brown, of Milwaukee, cabled the substance of the statement to his home. The next day the chairman of the Congress, Sir Crichton Browne, was able to read the reply from the Wisconsin authorities that the question was under consideration, and they would begin experiments the next morning to see if Koch were right.

In rehearsing the progress in animal extracts Dr. Ferguson, president of the British Medical Association, expressed himself as quite hopeful. They have a great future in practical medicine; and ere long many more will be in use, though doubtless some already proposed will fall short of their promise and pretension. Of the adrenal in particular he said that it must necessarily have a great future in therapeutics.

American competition has been worrying English business interests for some time. To find it worrying the medical profession is as novel as it is gratifying to note such a recognition. At the Cheltenham meeting of the British Medical a great deal was said about American educational facilities, and in particular about the magnificent endowments for teaching and research which American private munificence has provided.

In the United Kingdom less than one in 2000 of population receives university training; in the United States more than one in 1500.

It is a fact sadly commented upon at the great meeting of British physicians that one of the most valuable discoveries in chemistry was discovered in England, but when it came to putting it to practical use it was necessary to find some other country in which to do the work. The reason lies in the lack of research laboratories in Great Britain where skilled chemists may be trained.

London, Aug. 27, 1901.

It has been announced by Chief Surgeon Harvard, says the *Philadelphia Medical Journal*, that the experiments which have been conducted in the investigation of the propagation of yellow fever will be discontinued as far as the mosquito test is concerned. This was decided upon because one of the non-immunes who was recently bitten by an infected mosquito died of yellow fever. The man was a Spaniard, desired to become an immune, and therefore allowed himself to be bitten by an infected mosquito. Another man who was bitten is also suffering from a very bad case. Both were bitten by insects which had been set apart for the experiments of Dr. Caldas, the Brazilian expert, who has been arranging to demonstrate the alleged efficiency of a serum as a preventive against yellow fever.

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

All communications regarding papers, reports, etc., should be addressed to the Editor of THE MEDICAL AGE, P. O. Box 484, Detroit, Mich.

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EDITORIAL ARTICLES.

EXTERNAL PALPATION OF THE TONSILLAR REGION.

Dr. C. Minerbi, in an article reviewed by Dr. Grazzi for the *Journal of Laryngology* (vol. xvi, No. 7), calls attention to the importance of external palpation as a diagnostic means in diphtheria and other inflammatory processes involving the tonsils.

As it sometimes happens that it is impossible to examine the fauces of a child, it is very important to have some external sign which will inform us of the existence of an acute affection of the fauces.

According to the author, this sign consists in swelling, which occurs early, especially in diphtheria, and appears in a point corresponding to the superior triangle of the neck, situated between the angle of the jaw, the anterior margin of the sternomastoid, and the greater cornu of the hyoid. The author states that in the course of twenty years' experience there is swelling of the amygdalic glands of Chassaignac situate in this part, always from the commencement of fever, and this not only in diphtheria, but in all the acute tonsillar affections of children.

One must beware of confounding the glands of Chassaignac with another group, rather more superficial and mobile, which occurs in the superficial fascia immediately below the angle of the jaw, and which, according to the author, receives the lymphatics of the gum and second bicuspid of the same side.

Some have thought that this swelling might be the inflamed tonsil itself, felt from outside, but the author has excluded this by demonstrations on the dead body, and established that the swelling is due to the engorgement of the amygdalic glands of Chassaignac.

A day or two from the occurrence of fever from a tonsillar affection, swelling takes place in another group of glands which the author calls the inferior amygdalic glands, situated immediately external to the corresponding greater cornu of the hyoid. This swelling disappears with the cessation of fever, and before that of the glands of Chassaignac. Minerbi, after most careful observation, concludes that the amygdalic glands are anatomically separated from the other lymphatics, and describes clearly the nature of this separation.

EDITORIAL NOTES.

Beatson's Method for the Relief of Inoperable Cancer of the Breast.

Some time ago Beatson, a Scotch surgeon, advocated the idea that the so-called special cancer cells would be found to be vacuolated germinal cells corresponding with those found in the ovary alone. Acting upon this theory, Beatson made a number of experiments upon the lower animals, and found that after a removal of the ovaries, lactation was prolonged as long as suckling was maintained. Beatson then attempted to work out his theory on the human subject, and his first attempt was upon a young woman, whom he subjected to oophorectomy, and was surprised to find that the large recurrent cancer that had existed in this individual's breast disappeared entirely in the course of a few months. Since that time a number of English surgeons have followed Beatson's example, and have had more or less success. From what has already been done, it would certainly seem that this procedure might well be adopted by all those unfortunate women who are suffering from inoperable cancer of the breast.

ITEMS AND NOTES.

THE hospitals of Pittsburg are reported to be crowded with victims of typhoid fever.

THE death of Dr. Moncorvo, the well-known pediatrist of Rio de Janeiro, is announced.

A CONTAGIOUS diseases hospital is to be erected in Ottawa, Canada, at a cost of nearly $20,000.

GERMANY, Russia, and Roumania have decided that in the future no passports will be issued to lepers.

AN Egyptian medical congress will be held at Cairo December 10 to 14, 1902, under the patronage of the Khedive.

THE physicians of Kansas City recommend the erection of a hot weather hospital, in which the air be cooled artificially.

THE American Veterinary Medical Association held its thirty-eighth annual convention at Atlantic City September 3 to 6.

RUSSIA is again threatened with famine, and with it will doubtless come the usual epidemics of relapsing and typhoid fevers.

THE Cleveland city board of control has approved the proposition to establish free public summer and winter bath houses in that city.

SAN FRANCISCO is to have a new hospital. It is to be erected by the German General Benevolent Society of that city, at a cost of $250,000.

A NEW hospital for tuberculosis is being erected in a suburban section of Hartford, Conn., at a cost of $50,000, half of which has been donated by the State.

THE health commissioner of Denver has published a circular requesting victims of tuberculosis to abstain from expectorating on streets and in public conveyances.

THE Board of Health of Manila in a circular letter has called the attention of physicians to the necessity of extreme caution in the differentiation of the ambulatory type of plague.

IT has been decided by the King of Italy that the Palace of Monza, where King Humbert was staying at the time of his assassination, be converted into a children's hospital and asylum.

In order to guard against the plague, the Manila Board of Health has offered a bounty of a cent and a half for every rat killed. Twenty-five hundred dollars has been appropriated to pay the bounties.

The forthcoming zoological congress in Berlin includes 130 addresses. Professor Samuel Schenck, of the University of Vienna, will discuss before the congress his method of predetermining sex.

The term of Surgeon-General W. K. VanReypen, chief of the Bureau of Medicine and Surgery in the Navy Department, will expire December 18. Much speculation is being indulged in as to who will be his successor.

At the joint meeting of the Northwestern Wisconsin and Fox River Valley Medical Societies in Waupaca August 13 Dr. Byron Robinson, of Chicago, was honored with a special vote of thanks for his valuable medical discoveries and his original contributions to the science of medicine.

Mrs. Jane Lynn, of Emlenton, Pa., died recently, says *American Medicine,* after a most remarkable fast. It is reported that in sixty-one days she swallowed only one ounce of food, and that for fifty-five days she took absolutely nothing, with the exception of an occasional glass of water.

The *Pester Lloyd* is the authority for the statement that the wife of a Greek priest in Deligrad, Servia, has just had three girls and three boys born. They are all well formed and in good condition. Eighteen months ago she had triplets. This makes a total of nine children in a year and a half.

Japanese dentists, according to a contemporary, perform all their operations in tooth-drawing with the thumb and forefinger of one hand. The skill necessary to do this is acquired only after long practice, but when once it is obtained the operator is able to extract half a dozen teeth in about thirty seconds, without once removing his fingers from the patient's mouth.

Dr. Winfield Ayres, of Bellevue Hospital, New York, has found a mild solution of adrenalin extremely useful in certain kinds of genito-urinary work. In examining the urethra, an irritable stricture is frequently discovered, the first evidence of the fact being generally a severe hemorrhage, which there is sometimes difficulty in stopping. It occurred to Dr. Ayres to use adrenalin, and he finds it answers the purpose well, a solution of 1 :100,000 being sufficient for the purpose.

NEW PUBLICATIONS.

THE ESTIVO-AUTUMNAL (REMITTENT) MALARIAL FEVERS.

In this timely volume Chas. F. Craig has endeavored to describe with the greatest care and accuracy certain fevers which are as yet but very vaguely understood by the profession of this country.

The author has obtained his data largely from personal work done during the late war with Spain, while on duty as an acting assistant surgeon in the army, at the various military hospitals.

The author has made a careful study of hundreds of cases of the estivo-autumnal (remittent) fevers, and the book will be found to be a great help to physicians in making differential diagnoses.

The Estivo-Autumnal (Remittent) Malarial Fevers. By Chas. F. Craig, M.D., Yale, Acting Assistant Surgeon, U. S. A.; Pathologist and Bacteriologist to U. S. A. Army Hospital, Presidio of San Francisco, Cal.; Late Director of the Bacteriological Laboratories of the Sternberg U. S. A. General Hospital, Chickamauga Park, Ga., the Josiah Simpson U. S. A. General Hospital, Fortress Monroe, Va., and the Camp Columbia U. S. A. Hospital, Havana, Cuba; Member of the American Medical Association, the American Microscopical Society, etc.

A HANDBOOK OF SKIN DISEASES.

The best proof of the popularity of the work of Dr. Jackson is the demand for the fourth edition.

The diseases are considered in alphabetical order, which renders the book of ready reference. All that is new and practical in the line of dermatological investigation has been added, and to keep the volume within its present convenient size much has been rewritten and condensed. The style is clear, and the author's extended experience makes the work personal as well as authoritative.

The Ready Reference Handbook of Skin Diseases. By George Thomas Jackson, M.D., Chief of Clinic and Instructor in Dermatology, College of Physicians and Surgeons, New York. New (4th) Edition, Thoroughly Revised. In One 12mo. Volume of 617 Pages, with 82 Engravings and 3 Colored Plates. Cloth, $2.75, net. Philadelphia and New York: Lea Brothers & Co., 1901.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Affection of the Inguinal Glands in Visceral Cancers.

M. C. Vrannay (*Quarterly Medical Journal,* August, 1901) says that it has been known for some time that the supraclavicular gland on the left side was often enlarged in cases of visceral cancers, but it is not so well known that the inguinal glands are enlarged in some cases of the same kind, even before any other signs of the primary disease are manifest. The inguinal glands may be enlarged in cancers of the intrapelvic organs (anus, urethra, vagina, prostate, bladder, rectum, uterus, either body or neck, and ovary); in cancers of the abdominal organs (cancer of the peritoneum is often accompanied by enlargement of the inguinal glands, and this is often secondary to cancer of the small or large intestine), and in cancer of the vermiform appendix; but of all the cancers of the digestive tube cancer of the stomach is most frequently propagated to the glands of the groin. It has been noted also in cancer of the pancreas and kidney, and not so far as the author knows in cancer of the spleen and suprarenals. The same disease in the esophagus and lungs may give rise to it. Among the influences which tend to propagation of the cancer to the inguinal glands is proximity of the original tumor to the groin. Two forms of invasion may be distinguished: (1) Late in the disease when general invasion has taken place, and (2) early in the disease when enlargement of these glands appears before any other symptom; in this latter case they are probably not affected before any other glands, but owing to their superficial seat they sooner attract attention and may be a most valuable symptom. The glands may become affected by a direct lymph stream or by a retrograde lymph stream.

Suture of Arteries.

Victor Veau (*Gaz. des Hopitaux,* No. 31, 1901) gives notes of fifteen cases of suture of vessels which he has collected from various publications, including a recent one of Ricard's of suture of a longitudinal wound in the axillary artery. His conclusions are as follows: (1) in surgical wounds of arteries suture by all means; (2) in traumatic wounds perform lateral suture if the wound involves less than two-thirds the circumference of the vessel, if more do a circular suture by invagination; (3) in

arterio-venous aneurisms suture the orifices in both the arterial and venous walls; there will probably be much difficulty in doing the latter; (4) Tsabanejeq performed arteriotomy in order to remove an embolus; (5) Kummel sutured an artery after removal of a portion of the arterial wall, which had been invaded by cancer.

A Cured Case of Tetanus.

Prof. von Leyden (*Deut. Med. Woch.*, No. 29, 1901) reports the case of a twenty-two-year-old groom who was admitted to the hospital on the third day of his illness with typical symptoms of tetanus. Ten cubic centimeters of cerebrospinal fluid was withdrawn and injected into mice, confirming the diagnosis. He at once received a subdural injection of five cubic centimeters of tetanus antitoxin, which was repeated in three days. The action of the antitoxin was brilliant; before the first injection the temperature was 105.8°, and afterward on the same day sank to 101.6°, the following day to almost 99°. The effect on the temperature, the author believes, is most important, for he has never seen nor does he know of a case in the literature where recovery took place after the temperature reached 105.8°. After the injections the case ran the usual course, with well marked trismus, and in the fifth week was fully convalescent. Chloral was used in preference to opium as a sedative, and the nutrition was carefully attended to.

MEDICINE.

The Comparative Virulence of the Tubercle Bacillus from Human and Bovine Sources.

M. P. Ravenel (*Lancet*, Aug. 17, 1901) has, from a large number of experiments, deduced the following conclusions:

1. That the tubercle bacillus from bovine sources has in culture fairly constant and persistent peculiarities of growth and morphology by which it may tentatively be differentiated from that ordinarily found in man.

2. That cultures from the two sources differ markedly in pathogenic power, affording further means of differentiation, the bovine bacillus being very much more active than the human for all species of experimental animals tested, with the possible exception of swine, which are highly susceptible to both.

3. That tuberculous material from cattle and from man corresponds closely in comparative pathogenic power to pure cultures

of the tubercle bacillus from the two sources, from all animals tested.

4. That it is a fair assumption from the evidence at hand, and in the absence of evidence to the contrary, that the bovine tubercle bacillus has a high degree of pathogenic power for man also, which is especially manifest in the early years of life.

Acute Arteritis in the Course of Influenza.

Edmond Fort has collected a series of eighteen observations showing the occurrence of acute arteritis in the course of influenza *(British Medical Journal,* Aug. 17, 1901). This form of arteritis is very similar to that met with in other infective diseases, especially that which occurs in typhoid. It generally appears in patients who are over thirty years of age, when perhaps the arteries have begun to suffer from degenerative changes. It is most frequently met with in the vessels of the lower limbs, and is usually unilateral in distribution, though cases of its occurrence in both legs are not uncommon. It most frequently occurs during the period of convalescence, but, on the other hand, its incidence may be much more remote, occurring in patients who are presumably cured. The onset is usually sudden, the patient experiencing a sensation of numbness. Pain is present, and increased by pressure along the course of the inflamed vessel. This pain may be so severe as to require the injection of morphine. It is usually accompanied by a lowering of the temperature in the affected part, the color of the skin changes, showing bluish areas. Arterial pulsation may be lost below the lesion, which is pathognomonic of obliteration. This arrest of circulation may be merely temporary, and if the blood flow be reestablished no subsequent changes take place, but the opposite condition is extremely likely to be followed by gangrene, the usual signs of which do not call for any special note other than that it is very frequently of the dry form. Should there be phlebitis at the same time the gangrene may be of the humid type. The subsequent history of the case depends on circumstances, there being separation of the part affected or general invasion with fatal results. The writer records 6 deaths in 15 carefully observed cases. As regards treatment, the first thing to do is to place the limb completely at rest in splints, which are to be carefully lined with wadding. The writer recommends the application of salicylate of methyl or a liniment containing salicylic acid, turpentine, and extract of belladonna. The pain in severe cases must be dealt with as a symptom. Surgical intervention may be called for should the results not always be satisfactory.

Nervous Disorders Associated with Abnormal Tonsils.

Alexis Berest (*Thèse de Paris,* 1901; *British Medical Journal,* Aug. 17, 1901) deals with the nervous disorders which arise from an abnormal condition of the tonsils, and most of which are the result of reflex disturbance starting from hypertrophy of the glands. The contact of these bodies with the base of the tongue is often sufficient to provoke nausea and efforts towards vomiting, which may be produced not during meals but during the intervals. Among the rarer disturbances is spasm of the esophagus, of which a case was recorded by Senez (*Thèse de Paris,* 1893) concerning a sailor who suffered for several years from dysphagia, and was treated with antispasmodics without result. Ablation of the hypertrophied tonsils produced considerable improvement in this case. Cough is also produced by enlarged tonsils. The mechanism in this case is preferably pressure upon, and irritation of, the pillars of the fauces and consequently of the palatal twigs of the trigeminal nerve. The character of the cough is in these cases dry and hissing as in quinsy. Less frequently spasm of the glottis may be excited, or even attacks of bronchial asthma, of which several instances were published by Schmidt in 1877. Where the enlarged tonsils press upon or obstruct the pharyngeal orifice of the Eustachian tubes some degree of deafness may result. This may be due to mere mechanical obstruction, or to the production of a local nasopharyngeal catarrh, or according to Noquet, to paresis of the dilator of the Eustachian tube. The last observation has been confirmed by Weber-Liel in 1873 and by Woakes in 1879. Ocular and visual disturbances are uncommon, the better known of these being blepharospasm and asthenopia. Paresthesiæ of the throat and tongue, including feelings of globus, may arise in a similar way, and Boulay records an interesting case of neuralgia of the tongue thus produced, and which was cured after excision of the hypertrophied tonsils. The enlarged tonsils may be either firm and fibroid, or soft. In the latter form the coexistence of adenoids of the nasopharynx has often been established. Treatment consists in partial excision of the enlarged glands and local applications of a sedative character.

High Temperatures in Scarlatina and Measles, as Related to Gastrointestinal Toxins and Fermentations.

Arthur De Voe (*Pediatrics,* Aug. 1, 1901) offers a few observations bearing upon the question of high temperatures in these diseases. He says:

Temperatures of 103° to 106° F. in scarlatina and measles

decline promptly by one or more degrees from an injection of a pint or more of cool water containing two to ten grains, according to age of patient, of sulphocarbolate of soda per rectum.

In the same conditions and even in the same cases the cold bath has not acted with so much or so happy effect.

When the enema has been ejected without accomplishing a movement of the upper bowel, melioration of temperature has nevertheless been noted.

Offensive gases and intestinal dejecta are often in evidence from these enemas and a more notable reduction of temperature then ensues. To secure this effect repeated attempts may be required.

Sulphocarbolate of soda and other suitable intestinal antiseptics prove useful when given by the stomach also.

Many of the children having scarlatina and measles with high temperatures are observed to have one or more carious teeth in the mouth, generating toxic influences for the lower digestive tract. It is of interest to note here that these diseases prevail especially during the irritable periods of teeth formation, growth, decay, and exuviation.

The mouth and pharynx, the proximate cavities of the digestive tract, being accessible to observation and treatment, should be frequently cared for by brushing or wiping the teeth, and by cooling and non-irritating washes and gargles of antiseptic quality, especially during periods of high fever.

Post-scarlatinal nephritis should always be in mind when directing treatment of this disease. Intestinal antisepsis as it may be promoted, and asepsis as it may be urged by cooling enemas, give aid and comfort to the kidneys, the daily excretions from which should be carefully and intelligently watched.

High post-eruptive temperatures are often and have been repeatedly traceable to infelicities of ingestion and digestion and are more effectively relieved by prompt and sufficient enemas than by any other treatment.

These high post-eruptive temperatures repeatedly rising in the same individual have been accompanied synchronously by sensible increase of submaxillary swelling and tenderness followed by the quick abatement of these lypmhatic swellings along with the reduction of temperature from cooling antiseptic enemas.

The Tenacity of Scarlatinal Virus.

Lommel, of Jena (*Münch. Med. Woch.*, No. 29, 1901), reports a case which is almost as valuable as a physiological experiment upon the development of scarlet fever. An inmate of an institu-

tion for deaf and dumb children contracted scarlatina and was sent at once to the hospital, where he recovered. Twenty-one days after his return to the institute his room-mate came down with the disease and was put in the isolation room. The next day he was sent to the hospital. After his recovery he returned, and there was no further outbreak among the children. The isolation room, a few days after it had been occupied, was disinfected with formalin, though not very thoroughly. During the winter the room was occupied by a sixteen-year-old girl who mingled with the children. At Easter the room was again cleaned and the director's son, nine years old, slept in it for a few nights. Twelve days later he came down with scarlatina, which was 133 days since the scarlatina case was detained there, but no other children contracted the disease. The children had no intercourse with the outside world, so the conclusion was that the contagious principle had remained active in the room since being occupied by the other child. Regarding the girl who used the room and came in daily contact with the other children without distributing the disease speaks against a third person spreading the contagion.

Specific Blood Changes After Urine Injections.

Schattenfroh made some experiments *(Münch. Med. Woch.,* July 30, 1901) to determine if the injection of urine of an animal into one of a different species produced specific changes in its blood. A large number of rabbits were injected subcutaneously with human, goat, and horse urine. During two or three days 120 to 150 cubic centimeters of urine was injected in divided doses. The serum from those treated with human and goat urine showed marked solvent and agglutinating power for the red blood-corpuscles of the same species. The action was especially well marked in serum from human urine. Control tests with active and inactive goat serum produced in the rabbits large quantities of "anticomplements" and "precipitins," while hemolysin and agglutinating properties were absent. There seems to be an interesting contrast between the action of the urine and the serum, which perhaps may result in the explanation of the presence of the different specific solvent substances of the body fluids.

A Crystalline Immunization Product.

Buchner and Geret *(Münch. Med. Woch.,* July 16, 1901) report a reaction from the serum of a rabbit, which had previously received injections of peptone, when added to a solution of the

same peptone as injected. On the serum in a test-tube is gently floated the peptone solution, and at the junction of the two fluids a ring of precipitate forms on the wall of the tube. A similar reaction takes place if the rabbit is injected with defibrinated bullock's blood instead of peptone solution. But when mixed with bullock's serum there is not the slightest reaction. This precipitate can be examined under a microscope or it can be formed under the cover-glass on a chamber slide by causing the two different drops to run together, and at their junction are minute bodies or "globulites" which vary in size, are highly refractile, and very resistant to the action of strong acids and alkalies.

Schueller's Carcinoma Parasite.

Voelcker *(Deut. Med. Woch.,* July 25, 1901) says that he has not been able to corroborate the findings of Schueller. He followed the directions carefully as given in Schueller's book, but was unable to discover the organism of malignant disease. Finally he used some bergamot oil as a clearing agent, which was kept in a cork-stoppered bottle and contained minute particles of disintegrated cork. He then found great quantities of the various forms described. Still further experiments convinced Voelcker that most of the so-called parasites were artefacts from contamination in this way. However, there remained one form of small granule that he could not account for.

Tuberculosis of the Choroid.

G. Carpenter (*Lancet,* July 20, 1901) says that tubercle of the choroid may be met with in any form of tuberculosis, whether acute, chronic, or obsolescent. It is common in acute miliary tuberculosis and tuberculous meningitis, since it is present in fifty per cent of cases. As a rule the lesion is of small type, solitary, and limited to a single eye. It is far more frequent in chronic tuberculosis than is generally supposed. It was present in 9.24 per cent of the writer's cases. The tubercle in this form of disease may be single, multiple, disseminated, or diffused. In very rare instances it may attain great dimensions and eventually even perforate the tunics of the eyeball. It is present in a certain number of cases of quiescent tuberculosis. It then generally takes the form of a large, more or less pigmented area situated in or about the central region of the fundus oculi, with or without satellites.

The Relation Between Bile and Hippuric Acid Formation.

Rosenberg (*Centralblatt f. Innere Med.*, July 20, 1901) reports some experiments to confirm Zimmermann's statements that an individual whose intestines contain no bile is not able to convert benzoic acid into hippuric acid; that the bile, particularly the glycocholic acid, is the cause of the hippuric acid; and that with complete acholia of the organism it is impossible to change benzoic acid into hippuric acid, therefore hippuric acid would indicate bile in the intestines. Rosenberg made a gall-bladder fistula in a dog and twice gave him benzoic acid in his food. Both times a considerable amount of hippuric acid was found in the urine. The author holds Zimmermann's conclusions to be false, and the bile alone is not responsible for converting benzoic acid into hippuric acid.

THERAPEUTICS.

Certain Congeners and Derivatives of Aconitine.

In the course of two papers, recently read before the Royal Society, Prof. Theodore Cash and Prof. Wyndham K. Dunstan (*British Medical Journal*, Aug. 17, 1901) described the results of experiments undertaken to compare the properties of pseudaconitine and japaconitine with those of aconitine; and to investigate the action of pyraconitine and methylbenzaconitine. Pseudaconitine, the alkaloid obtained from aconitine ferox or Indian aconite, was first isolated in 1878 by Alder Wright. Its formula is now given as $C_{36}H_{49}NO_{12}$. Its salts in solution cause tingling of the tongue and lips. When heated in the dry state, pseudaconitine gives off a molecular proportion of acetic acid, leaving another alkaloid, pyropseudaconitine, which does not produce the toxic effects of the parent base. Japaconitine, the alkaloid present in aconitum japonicum, has now been assigned the formula $C_{34}H_{49}NO_{11}$. On heating japaconitine jap-pyraconite and acetic acid are formed. The differences between the three alkaloids, aconitine, pseudaconitine, and japaconitine, are differences of degree, not of kind. Thus all three alkaloids have a similar effect upon the hearts of mammals, but pseudaconitine acts qualitatively more energetically towards the cats, while japaconitine is more active upon frogs. Again, there is less tendency to acceleration of respiration with pseudaconitine, as also a less frequent initial rise of temperature. Less tolerance is shown to pseudaconitine than to the other two, after repeated administration. Based upon the observations made, the relative doses for therapeutical pur-

poses would be approximately, regarding that for aconitine as the unit, for pseudaconitine 0.4 to 0.45, and for japaconitine 0.8. Pyraconitine, obtained from aconitine by heating to separate a molecule of acetic acid, causes no tingling of the lips or tongue. It causes slowing of the heart, partly from vagus irritation, partly from depression in function of intrinsic rhythmical and motor mechanisms. After its administration activity of respiration is reduced (by central depression) to a degree incompatible with life. Neither muscular nor intramuscular nervous tissue is strongly influenced by pyraconitine, but the spinal cord is impaired in its reflex function, and there is a curious condition of exaggerated motility. Methylbenzaconine was obtained from aconitine by heating it with methyl alcohol in a closed tube. This alkaloid differs from aconitine by containing a methyl group in place of the acetyl group. It is a body with very feeble toxicity, and has to be given in large doses in order to cause failure of the heart. Large doses depress the cardiac vagus, neither section of the vagus nor atropine administration relieving the slow and faulty action of the heart. Impairment of cord reflexes is later in occurring than the action upon intramuscular motor nerves. Salivation and clonic movements suggest the action of a near ally of aconitine, but the effects of methylbenzaconine are much more curare-like in character, motor nerves being much affected by comparatively small doses.

Cinnamic Acid and Igazol in Experimental and Clinical Tuberculosis.

Max Wolff (*Deut. Med. Woch.*, July 11, 1901) inoculated a large number of animals with tuberculosis and treated different groups with hetol (cinnamic acid) injections and inhalations of igazol (a formalin preparation containing iodine). Neither treatment had any effect on the development of the infection, which progressed as far as in the control animals; besides, the pathological lesions were alike, even after several months' treatment. Clinically forty-two patients were treated with cinnamic acid and twenty-seven with igazol, the results being negative, as with the animals.

Treatment of Croupous Pneumonia.

A. Petzold (*Deut. Archiv f. Klin. Med.*, Heft 3 and 4, 1901) gives his experience for over three years in treating pneumonia with subcutaneous injections of quinine. In all complicated cases

the injections caused such marked improvement in the general condition that the author thinks it must be a sort of antitoxin for the diplococci poison. Naturally it had no influence on such complications as icterus or nephritis, and symptomatic treatment must not be neglected. The author believes a daily injection of 0.5 gramme of quinine hydrochlorate is indicated in all cases of pneumonia. Quinine hydrochlorate is soluble in only 34 parts of water, so that 17 grammes of fluid is necessary for an injection, which is best given in the side of the abdomen where the tissue is loose and the fluid can be easily absorbed.

Alcohol as a Food.

R. O. Neumann, of Kiel (*Münch. Med. Woch.*, July 9, 1901), submitted himself to careful and extensive experiments upon the albumin-saving property of alcohol. After abstinence from alcohol for seventy days he went on a diet of bread, cheese, fat pork, and brain-sausage; he was then in a state of nitrogenous equilibrium. He first omitted half the quantity of fat, and there was an increased excretion of nitrogen. Next the withdrawn fat was replaced by alcohol, and after two days, during which time the organism became accustomed to the alcohol, the nitrogenous equilibrium was reestablished. On a full diet, if alcohol was taken, its albumin-saving action exhibited itself by a further reduction of nitrogenous elimination. Again, the alcohol and part of the fat were cut off, and the excretion of nitrogen increased, but the equilibrium was restored upon return to a sufficient diet. The results were questioned by some, so the author submitted himself for the second time to these experiments. The results were the same, showing that alcohol is a true food, but not capable of taking the place of fat in every respect. Though a food in its action, its use as such is not recommended, for in addition it is a poison when taken in quantities over forty grammes. Neumann is convinced that there can be no doubt as to the nutritive action of alcohol.

RHINOLOGY AND LARYNGOLOGY.

UNDER THE DIRECTION OF WADSWORTH WARREN, M.D.

The Nasopharynx in Scarlatina.

Dr. Seibert, of New York, in an article with the above title (*Archives of Pediatrics*, vol. xviii, No. 8) gives some admirable advice regarding the care of children during this often serious infectious disease. When the child is old enough to submit to the

procedure, he recommends a thorough douching of the infiltrated mucosa of the nasopharynx with a warm irrigating solution of ichthyol one to five per cent, repeated every six hours. One-half pint is allowed to flow through the nares and the nasopharynx from a fountain syringe suspended about three feet above the patient. But where the infiltration of the nasopharynx has so far advanced as to obstruct the passageway between the nose and throat, he recommends the use of nasopharyngeal applications, and for this purpose advocates the use of a fifty-per-cent resorcin solution in alcohol. He reports a number of cases in which such applications have afforded very prompt and marked relief, not only reducing the local infiltration, but apparently influencing the general septic condition very favorably. In none of the cases which he reported was there any subsequent otitis. Where the throat infection is not very severe, the infected tonsils may be washed over and superficially disinfected by the use of the following solution:

℞ Tr. iodi..... 2,0
Potass. iod..... 1,0
Aq. destill..... 120,0
Acid. carbolici .....gtts. x

M. Sig.: A teaspoonful every hour.

This may safely be given for four or five days successively to children of one year of age as well as to adults. He has never noted carbolic intoxication with this mixture. Occasionally gastralgic pains are complained of, due no doubt to the artificial hyperacidity induced by this fluid in the stomach.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,

Lecturer on Dermatology, Detroit College of Medicine.

Etiology of Purpura Hemorrhagica.

At the annual general meeting of the Dermatological Society of Great Britain and Ireland, 1901 (reported in the *British Journal of Dermatology*, July, 1901), the presentation of the following case with discussion took place:

Dr. Graham Little showed a case of purpura hemorrhagica in a boy of twelve. The patient presented himself for the first time on May 16, with hemorrhages on the arms and legs. He gave a history of vomiting on May 14, and had previously, on one occasion, passed blood in his motions. He had somewhat

puffy hands, foul breath, and a furred tongue; but there was no albumin in his urine. Since then a fresh eruption of the same character had occurred, and had remained practically *in statu quo*. The rash was mostly on the arms and lower extremities, and the buttocks were extensively involved. A first sound, of a booming character, and accompanied by a doubtful murmur, could be heard. There were numerous telangiectases on the ears and cheeks. There had been no hemorrhages from the buccal mucous membrane. There was no urticarial feature in the case, but the legs were said to have shown a mottled erythema for months. The boy's mother had died of phthisis. The patient himself was weakly and thin, but had no physical signs of phthisis.

Mr. Pernet agreed that the eruption was purpuric, and in his opinion the hemorrhage from the bowel was connected with the skin condition. He believed cases of this kind were sometimes the result of the introduction of materials either toxic in themselves or contaminated with bacteria. In the present instance there was a history of the child having eaten "hokey-pokey." Mr. Pernet had seen a marked erythematous rash follow the eating of ice-creams retailed in the streets. It is well known that snakes' bites rapidly give rise to hemorrhages in the skin.

Mr. Campbell Williams said that he would regard the case as one of peliosis rheumatica, notwithstanding the existence of an exudative or urticarial tendency about some of the uppermost lesions. The feet, legs, and arms had the appearance of peliosis rheumatica, and in that disease the joint pains were often trifling. He agreed with Dr. Little that, as there was a suspicion of something wrong with the heart, a rheumatic origin should be suspected. The limitation of the rash to the limbs, and the marked freedom of the trunk and face from the eruption, were in favor of rheumatic purpura rather than intestinal toxemia, which one would expect to produce a general and not a limited eruption.

Dr. Eddowes said that his first examination of the rash suggested to him purpuric erythema. He thought that possibly toxins might cause the trouble, but that microorganisms, circulating in the system, and blocking minute vessels, might also lead to the hemorrhage.

In this case there was a marked history of tuberculosis. The boy's mother had died of consumption, and the father was very ill with the same disease. Considering these facts, and that the boy looked very ill and delicate, had a cough, a recurrent rash, and a history of diarrhea with hemorrhage from bowel, it would be well to examine the chest and look for tubercle bacilli, as this case might turn out to be one of commencing general tuberculosis.

The Treatment of Vascular Nevus.

At the 293d meeting of the New York Dermatological Society (reported in the *Journal of Cutaneous and Genito-Urinary Diseases,* August, 1901) a discussion arose on the treatment of vascular nevus upon the presentation by Dr. E. B. Bronson of the following case:

The patient was a child one year old with a congenital nevus flammus of the right ear and surrounding skin, forming a patch about the size of the adult palm. On the same side, at about the center of the cheek, and an inch or more in front of the nevus, was a small angioma of papillomatous appearance with narrow contracted base, and elevated nearly one-quarter of an inch above the surface. This little tumor had appeared only about a fortnight previously, had grown rapidly, and was attended with frequent hemorrhages, especially at night or whenever accidentally rubbed or otherwise injured. There was no definite history of traumatism at the start.

Dr. J. A. Fordyce suggested the use of the galvanocautery or of the Paquelin cautery for the treatment of the nevus of the cheek. It would leave less scarring, he said, than any other method.

Dr. C. W. Allen said that he had attacked much larger nevi in a prominent situation, and there had been almost no scarring after electrolysis. He had operated upon a very large erectile nevus upon the cheek and in the region of the eye by passing a flat needle through the base with a pretty strong current, so that there was no bleeding. He had then threaded the eye with kangaroo tendon, and, having drawn it through, had tied the mass in segments.

Dr. S. Sherwell said that he had operated twice very recently upon the eyelid in the case of a large and progressive nevus, by applying the small Paquelin cautery point very thoroughly. The result had been perfect, there being hardly any blemish. It seemed to him more reliable than the galvanocautery. He had treated nevi in other situations with an insignificant amount of scarring. The cautery should be heated to a cherry-red.

Dr. G. T. Jackson said that such nevi should be destroyed in some way. Electrolysis he regarded as the best agent for destruction. Dr. Abbe was in the habit of destroying them by the use of a shoemaker's awl heated in an alcohol lamp to a red heat and allowed to cool to a black heat.

Dr. G. H. Fox said that he had seen quite recently a nevus of the lip and nostrils in which the hot needles had apparently been

used thoroughly, but the treatment had resulted in failure. A good result had followed from the use of the electrolytic needle.

Dr. Henry H. Whitehouse said that he personally preferred electrolysis, using a current of at least three or four milliamperes. After having pierced it two or three times, the sensation was considerably benumbed. The method seemed to be much more capable of control than the Paquelin cautery.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

Facial Presentation.

Ostreil (*Medical Press,* July 24, 1901) gives an analysis of 11,513 cases delivered at the "Hebammen" Clinic of Prague, of which fifty-nine, or 0.5 per cent, were face presentations. Of these fifty-nine, one-third were primiparæ, and two-thirds multiparæ. This position was no more dangerous for the mother than the vertical pole, except that labor was more protracted. Infant mortality is high, being 41.8 per cent. In six cases, or 10 per cent, instruments were used, with two fetal deaths. In one case perforation was performed; twice turned; while nine were improved by Thorn's manual correction.

Ostreil recommends the earliest possible interference to correct the position according to that recommended by Schatz, which may be easily performed if sufficiently early diagnosed and no complications present.

When the head has descended well into the pelvis, and the os fully dilated, chloroform should be given, and Schatz's method tried; failing this, Thorn's method may be undertaken—*i. e.*, pass the hand into the uterus till the occiput is firmly grasped, which is then drawn forward while the face recedes. This operation is assisted by the second hand manipulating the external surface of the abdomen.

The cause of this position is often attributed to the dolichocephalic condition of the fetus, but Ostreil thinks this a result and not a cause. The primary cause he assigns to the great size of the fetus; in all his cases only eleven of them were under 3000 grammes. This state shows the chin to fall low and catch on the pelvis.

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ORIGINAL CONTRIBUTIONS.

PLEURAL AND PERICARDIAL EFFUSIONS.*

BY JAMES S. BROWN, M.D., MANCHESTER, N. H.,
Surgeon to the Sacred Heart Hospital.

This subject has been selected by me for consideration for the reason that these effusions are very common affections, and because, even though they are met with so frequently, the diagnosis in many cases is not made.

I do not, of course, intend going into the general consideration of thoracic effusions, but simply to try and mention some points brought out in my own experience, which the usual text-books cannot afford sufficient space to consider in full, and especially to call your attention to some of the minutiæ of the operation of aspiration of the thorax, which render it at once one of the safest of surgical procedures, and the procedure of election in most of the serofibrinous effusions.

Considerations of limitation of time will prevent my taking up the questions of purulent effusions and of those serous thoracic effusions the result of renal or cardiac failure, and accordingly this paper will be limited to serofibrinous effusions the result of pleurisy or pericarditis, as the case may be.

With regard to the causation of pleural effusion, a certain number are the result of tuberculosis either of the lung or pleura, or both, a few result from malignant growths, and a few also from traumatism. Quite a considerable number follow as sequelæ of the infectious diseases. I have seen two cases following influenza, and two purulent effusions following typhoid fever. But the great majority have no assignable cause beyond exposure and cold. Of this latter number, as Tyson remarks, probably many will, upon

* Read before the New Hampshire Medical Society.

closer study, be found to be tubercular. The number of pleural effusions varies to a great degree from year to year, and during the past two years in Manchester, I am told by old physicians, there has been an unprecedented number. I have sometimes thought that the present large number of effusions we see is due in some measure to the prevalence of an influenza.

The diagnosis of pleural effusion is usually very easy, but may be quite difficult. It is surprising, however, to see in how many cases, easy of diagnosis, the effusion is overlooked, usually by reason of a faulty examination. I remember one case sent for operation for appendicitis, which proved to be a right-sided pleural effusion, displacing the liver downward. After aspiration of forty-four ounces from the pleural cavity, the man was almost immediately cured. The diagnosis of pleural effusion must be made from physical signs alone, for the subjective symptoms are of value only in causing you to have a *suspicion* of effusion.

The important physical signs of this condition are the following: First, the intercostal spaces are filled out and may bulge, and the affected side is relatively immovable; there is dulness or flatness, and increased resistance on percussion. This sense of solidity or resistance to the percussing finger is a sign that is not given the value it deserves in diagnosis, for by it the practiced diagnostician can differentiate at once the dulness of pleural effusion from the dulness of extensive consolidation of the lower lobes of the lung.

The diminution of the tactile fremitus, elicited by placing the palmar surface of the hand upon the back of the patient while he counts out loud, is one of the most valuable signs of effusion of the pleura, and a sign to which too little weight is given in the diagnosis. It is stated in many text-books that the tactile fremitus is abolished over the effusion, but you will find that in a large effusion with high tension of the contained liquid it will still be present, but diminished.

There will usually be absence of breath sounds, and diminution of the vocal resonance over the effusion, but frequently respiration will have a distantly bronchial sound immediately above the effusion, due to condensation of the lung by the presence of the liquid below it. The last, but certainly not the least of the important signs, is the displacement of the apex beat of the heart toward the unaffected side. This sign, so frequently passed by in a hurried examination, is of the utmost value because of the ease with which it may be elicited. The displacement may be extreme. I have seen it under the right nipple, and in the left axilla in another case.

It is important to remember that one or two of even these

most positive signs may be absent—for instance, in a case which I saw last winter there was no dulness in the back, but dulness in the axilla, and the effusion turned out to be encapsulated in the front and side of the right pleura. So of the sign of diminution of tactile fremitus, it has much more value in men than in women, and in the lean than in the fat; and in regard to displacement of the apex beat we must remember that it may have been displaced from other causes, such as dilatation of the heart, pericardial effusion, or the adhesions of an old pleural effusion.

In calling these six the most important and relatively constant signs, I am aware that I have omitted a host of others, but you will find the others not so constant or else difficult to elicit. For instance, movable dulness is pathognomonic if recognized, but it is really quite a difficult sign to make out clearly. So with decubitus. I have seen quite a number of patients with small effusions who preferred to lie on the unaffected side. The increase in measurement of the affected side is a sign also without much value, for it is usually not more than one-half of an inch anyway. The flat tympany found in the infraclavicular region called Skodaic resonance, and the egophony sometimes heard over the upper part of the scapula, will be aids to diagnosis when present, and I have already mentioned the occurrence of distant bronchial breathing above the effusion. Certain cases may still remain doubtful upon the most careful physical examination, and in any such case I wish to urge upon you the routine use of the aspirator as a diagnostic procedure. This operation may be made almost entirely painless, and almost without danger, by attention to certain details which I will mention later.

I wish to mention briefly certain complications of pleural effusion which I have seen. Bloody effusion usually means malignant disease of the pleura, or it is of tubercular or septic origin. I have had one case of the latter. A woman had been delivered of a child, and about one-half of the placenta had been left in the uterus. The case came to my hands twelve days later, after having bled almost to death, and in a highly septic condition, with a temperature of 105°, and a pulse of 140. I at once removed the placenta and membrane remaining, and gave her intra-uterine douches of 1 :100 creolin. She gradually improved for some days, but developed dyspnea and some dulness in the right lung. I aspirated and withdrew one pint of bloody serum. The condition recurred on the other side, and I again aspirated, with the same result. Later she had an ascites which I aspirated twice, getting about a gallon each time. Then she developed a phlegmasia of the right brachial vein, but finally made a good recovery after having a pulse going at the rate of 140 for over two weeks.

Another interesting complication is pleural effusion and pericardial effusion in the same patient; of a case of this kind I will speak later.

Encapsulated effusion I have mentioned. It is to be positively diagnosed only by the aspirator. The differential diagnosis between pleural effusion and croupous pneumonia is a question very frequently asked in examinations of all sorts.

It is never difficult in my experience. The physical signs are different with the exception of dulness, and even the dulness has a different character in effusion. The most important diagnostic difference is probably tactile fremitus, diminished in the one and increased in the other. With regard to temperature, it is not so important a differential point as usually given, for I have seen occasionally pleurisies with a temperature of 104° and pneumonias with temperatures not higher than 102°.

Pneumonia usually begins with a well marked chill, and pleurisy with only a feeling of chilliness. Expectoration in pleurisy is sometimes bloody from accompanying bronchitis.

The hardest differential diagnosis which I have been called to make is that between massive tubercular consolidation of the whole lower part of a lung, or even of a whole lung, and pleural effusion. Sometimes this may have a relatively acute onset, and where the air cannot get into the consolidated part at all the signs are much like those of effusion. I have seen two cases of this kind in which an absolute diagnosis was only made by the aspirator.

We must also remember that a pleural effusion on the right side may displace the liver downward, perhaps two or three inches, causing pain in the abdomen and giving the case the appearance of an abdominal lesion.

Extensive pericardial effusion usually gives marked flatness in the left axilla, and some cases look like a pleurisy encapsulated there. In these cases normal resonance will be retained in the back. The thing to do, if in doubt here, is to aspirate the pleura first and the pericardium later, if it be deemed necessary.

Recurrent effusion usually means tuberculosis. These recurrent effusions may be as much as a year apart and may be on the same or different sides. The connection between pleurisies and tuberculosis was especially called attention to by Dr. Bowditch many years ago, and the matter should be further investigated by the injection of a portion of the aspirate into guinea-pigs as a routine pathological measure. Dr. Bowditch especially urged early aspiration as a means of counteracting these tubercular tendencies, for we know that these serofibrinous effusions offer

excellent culture mediums for the tubercle bacillus at the temperature of the body.

I suppose, however, the most urgent reason for early aspiration is to prevent the change of a serofibrinous exudate into pus. The usual effusion is on the border-line of pus—that is, it contains many dead leucocytes and needs only the intervention of bacteria to augment their number and change to pus; and I have myself seen so many cases of effusion treated by other physicians by the use of medicines, which later came to me for operation for empyema, that I have no doubt early removal of the fluid is the best prophylactic of purulent change. A point not mentioned, I believe, in American text-books is this, that all recent effusions contain red blood-corpuscles, and if the number of these is below 3000 to the cubic millimeter the effusion rarely becomes purulent, but if from 3000 to 5000 the effusion is very apt to undergo such change, if not removed early. The prognosis of pleural effusion, left to itself, is toward one of four ways: first, gradual absorption and recovery; second, purulent change; third, pulmonary tuberculosis with or without absorption; fourth, sudden death by pulmonary or cardiac clots, with perhaps embolism from the clot or asphyxia from plugging of the pulmonary artery, or from syncope from pressure of the effusion upon the heart or blood-vessels; or fifth, gradual death from exhaustion. Dieulafoy himself has collected forty cases of sudden death in the course of a pleurisy; but the termination in the majority of cases without medicine or aspiration is toward a slow absorption of the fluid. With regard to medicinal treatment we must remember that pleural effusion is an asthenic disease occurring for the most part in subjects more or less debilitated, and therefore I have abandoned drastic measures, such as marked purgation, diaphoresis, or diuresis, because the drugs used in these ways are to my mind of very doubtful utility and are very weakening. Further, I do not believe that blisters have any value in the removal of the effusion, although they may relieve pain somewhat.

My ideas with regard to medicinal treatment are these: to get the secretions all in as nearly normal condition as possible, and to use general tonics like iron, quinine, and strychnine.

To me it seems ridiculous to force a patient to use a dry diet, to purge and sweat him half to death, when the removal of the effusion may be accomplished in six to ten minutes by aspiration. An operation, as Dieulafoy says, is "but the prick of a needle; at once our least painful and least dangerous operation."

The indications for aspiration may be relative or absolute—*i. e.*, it may be an operation of necessity or of choice. My late teacher, Dr. William Pepper, formulated the following absolute

indications for immediate aspiration: first, pleura full to the clavicle; second, fluid in both pleural cavities; third, the occurrence of great dyspnea or of cyanosis; fourth, pleural effusion which has resisted medicinal treatment for three or four weeks. Dieulafoy, the greatest authority in the world on this subject, goes farther, stating that dyspnea and cyanosis are deceptive signs, and that the absolute indication for aspiration at once is the presence of fluid to the amount of 1800 grammes, as a less amount than this has never caused sudden death. The exact estimation of the amount is somewhat difficult, but he gives the following rules: When inspiration is not perceptible to auscultation but expiration remains as a faint souffle, the quantity is below the danger point, but if the respiratory sounds are not perceptible at all, or if they have a cavernous or amphoric sound, the amount of the fluid is about 1800 grammes. And also, when in a left-sided effusion the apex-beat of the heart is displaced behind the sternum or to the right of the sternum, and in a right-sided effusion if the liver is palpably displaced downward, the effusion should be aspirated at once. In addition to these absolute indications for immediate aspiration it is, in my opinion, the procedure of choice in all effusions that are stationary, and in which the febrile reaction has largely passed away, without regard to their amount. In this connection it may be well to state that pleural effusions vary very much in different localities. For instance, I am told that in Canada it is a very common but not very severe affection with marked tendency to spontaneous cure, and in my own experience in Pennsylvania it is much less common than here. In Manchester it is very common and does not yield well to medicinal treatment, or to expectancy, except in exceptional instances.

The technique of aspiration is as follows: The aspirator is put together and tested in the office by allowing a little carbolized solution to flow through it. There is nothing so mortifying as to insert the needle in a patient and find that there is some fault with the apparatus. Next select needle No. 2, or No. 3, with its wire inside of it; wrap it in gauze and boil it ten minutes; take it out wrapped in the gauze and wrap it in a clean piece of cloth. At the patient's house, after the operator has cleansed his hands, the gauze is to be opened and the wire withdrawn from the needle, and the apparatus put together and its permeability again tested by drawing a little carbolic solution through the needle, which is left in the remaining solution until needed. The patient sits upon the bed with his arms extended in front and supported by the assistant or friend. I then give him half an ounce of whiskey and have a hypodermic loaded with 1 20 grain of strychnine. The distal stop-cock is closed and a vacuum formed in the aspi-

rator; then the other stop-cock is also closed. The skin of the patient at the point selected is to be sterilized by vigorous scrubbing with alcohol and 1:20 carbolic solution, and the operator's hands by soap and water and alcohol. Select a point in the seventh or eighth interspace in the back in the line of the prolongation of the angle of the scapula. The skin is to be anesthetized by a spray of ethyl chloride until well whitened and frozen, and the needle pushed steadily in close to the upper border of the rib. When it has entered the pleural cavity may be told by noticing the disappearance of the resistance of the tissues. The stop-cock on the side toward the needle is then opened and the liquid is allowed to run slowly. The needle may now be turned parallel to the ribs to keep its point away from the lung. When one quart has been drawn away, the stop-cock attached to the needle is to be closed and the needle slowly withdrawn. No dressing is needed but a piece of plaster, or some collodion may be used if desired. If the remainder of the effusion is not entirely or largely absorbed the next day, or the day after, the operation is to be repeated. The reason why only a quart is withdrawn at one sitting is that it almost entirely obviates the only two dangers that this operation has when conducted in the way I have described: these are syncope and albuminous expectoration, and the operation is so painless that patients never dread the second aspiration. The back is selected as the point of election because it is equally or more accessible than any other place, and because heart, spleen, and liver are further away. If at any time in the operation unpleasant symptoms arise, such as faintness, great weakness, prolonged cough, etc., the needle should be immediately withdrawn and the operation proceeded with the next day.

By observing all these precautions the operation becomes almost entirely painless, and without danger. Wound of an intercostal artery or of the lung, sepsis, entrance of air into the pleura, etc., are to be disregarded, as they do not occur. The two dangers which may occur are syncope and albuminous expectoration. They are usually due to removal of too much fluid or to complications such as pericardial effusion.

I have had but one complication of aspiration of the pleura, viz., albuminous expectoration in one case, with recovery. The operation in any case is a very safe one, and with observance of the above precautions the mortality should not be over one in a thousand in uncomplicated cases, and I am positive that many lives, to say nothing of prolonged sickness, of tuberculosis, or of empyema, etc., will be saved by early resort to aspiration.

With regard to pericardial effusion, it is a lesion quite com-

mon, as we know by autopsies, but one in which the diagnosis is not made very often. It is usually secondary to rheumatism in a majority of cases, to tuberculosis, to eruptive fevers, especially scarlatina, to Bright's disease, and to pneumonia by contiguity. I have made the diagnosis in five cases—two were due to rheumatism and yielded readily to salicylates, one to tuberculosis, and in two the cause cannot be definitely stated. I did an autopsy on the tubercular case, and found, in addition to the serofibrinous effusion of the pericardium, tuberculous empyema of the right pleura, and pulmonary tuberculosis. This illustrates the general fact that pericardial effusion is very rarely idiopathic, but usually connected with some other disease.

The symptoms given in the text-books will usually enable one to diagnose these cases by careful attention to the physical signs, but the fact remains that in some cases the diagnosis is very difficult, and even so expert a diagnostician as Dr. William Pepper pushed an aspirating needle into a dilated heart twice, but without bad results, he states. I wish to call your attention to but two symptoms in addition to the classical symptoms. These are the pulsus paradoxus, and enlargement of the liver. The first I have never seen in any other condition, and it occurs with moderate or large effusions. In this, intermissions of the pulse occur with each inspiration. Enlargement of the liver due to pericardial effusion is an interesting symptom, though of course not particularly diagnostic. It only occurs with large effusions, and is due to pressure upon the right auricle and ventricle, causing passive hyperemia of the liver, which may extend below the umbilicus. The largest pericardial effusion which I ever saw was in a patient moribund at the time of my first consultation, and I did not think it best to aspirate. Autopsy revealed one quart of fluid. Large pericardial effusions may be confounded with pleural effusion, but here the back will be resonant, and if necessary the pleura may be aspirated first. The differential diagnosis between pericardial effusion and a dilated heart is notoriously difficult in some cases. The best differential points are the comparatively acute onset of pericarditis, the fact that the apex-beat is carried up and in, or is not to be found at all, and that the sounds are inaudible or muffled in effusion, and that a dilated heart does not give the flat note in the axilla on percussion.

In some cases there seems to be a general tendency to tuberculosis of the serous sacs. Some of these cases are undoubtedly tubercular, and in some the cause is hard to find. One of the latter class of cases has been in the hands of Dr. Lemaitre and myself for the last two years, and as it is quite a remarkable case

in some respects, and well illustrates the complications and combinations of pleural and pericardial effusions, I will report it here.

The boy, about seventeen years of age, walked into the office two years ago, and we found his left pleura full to the clavicle, and the apex-beat under the right nipple. We aspirated that day and the next, taking one quart each day, and he made a rapid and complete recovery and soon went to work in the mill. One year later he was taken very seriously sick again with dyspnea, cyanosis, etc., and he had marked dulness over the front and side of the left chest, with normal resonance in the back. The heart sounds were muffled, and the apex-beat was above the left nipple and one and a half inches to the right of it, and he also had well marked pulsus paradoxus and enlargement of the liver. There was so much dulness in the side and axilla that we considered the possibility of encapsulated pleural effusion, and aspirated the left pleura through the axilla with negative results. The next day I aspirated the pericardium through the fifth interspace, one and a half inches to the left of the left border of the sternum, and withdrew eight ounces of liquid, with great and immediate relief of all his symptoms. The aspiration was conducted in the same way as a pleural effusion, except that we used the finest needle and opened the stop-cock as soon as the needle's point was buried beneath the skin, and the aspiration was conducted very slowly. He then made a fair recovery, but some months later developed effusion in the right pleura. We aspirated this with the usual precautions, but after twenty-four ounces had been withdrawn he complained of weakness, and the operation was immediately stopped and he was given some more whiskey. All that night he had large quantities of albuminous expectoration, but recovered all right. This complication was probably due to a heart crippled by old adhesions and causing edema of the lungs. He has lately developed ascites, and a few days ago I removed a gallon with trocar and cannula. He is now in fair health, but will probably never be entirely well.

The indications for aspiration of the pericardium differ from those of aspiration of the pleura for this reason, that while the former is merely palliative and is used to tide the patient over a crisis, the latter is curative, and a serofibrinous pleural effusion aspirated after it has become stationary never returns. Aspiration of the pericardium is not a procedure of great danger, but it is usually only employed for an effusion that is overwhelming the heart, and in many such cases it will give the relief that will save the patient's life.

MALARIA: ITS CAUSATION AND PREVENTION.*

BY EDWARD F. WELLS, M.D., CHICAGO.

One by one the great medical problems are being solved. Specific diseases, especially those of extrinsic origin, are being rigidly differentiated clinically, their respective essential causes isolated, their etiological factors and avenues of infection discovered, their prevention and cure by rational methods formulated. Thus are they taken from the theorist and empiricist and handed over to those whose duty it is to make intelligent practical application of our stores of accumulated knowledge for the best interests of mankind. The malady which has most recently had its etiology and prophylaxis thoroughly illustrated by a short, sharp, and aggressive campaign of investigation is malaria, the subject of our discussion this evening; and if we pause to remember that in the greater portion of the most fertile parts of the world this disease is the greatest cause of invalidism and death and is the most momentous medico-economical question of the day, we must acknowledge that it challenges our earnest consideration.

Malaria is a generic term applied to a group of closely related diseases—the malarial fevers—each of which is clinically and pathologically distinct and is caused by a specific hemosporidian parasite, which is introduced into man by the sting of infected mosquitoes.

The history of malaria, from the most ancient times to the present, is singularly full and complete. That malarial fevers were quotidian, tertian, and quartan in type, and were influenced by the seasons and proximity of marshes, was recognized by the primitive physicians. Later the relationship to those of remittent and pernicious fevers was recognized. The introduction into Europe, in 1640, of cinchona bark as a specific remedy for intermittent and remittent fevers—which marked an epoch in medicine—greatly stimulated the study of malaria, rendered its diagnosis much more satisfactory, and has saved the lives of millions of its victims.

Cleghorn, who studied malaria in the island of Minorca in 1744 and subsequent years, called particular attention to double tertian fevers; to the protean forms assumed by the febrile paroxysm; to the red color of the serum of the shed blood in some cases; to the splenic tumor which he found present in all of one hundred fatal cases submitted to autopsy. Bailly, in 1825, noted the dark color of the cerebral cortex in some fatal cases of pernicious fever; Stewardson, in 1844, demonstrated hepatic bronzing, and Clark, in 1855, showed that this was due to chromatic

* Read before the Chicago Medical Society, Dec. 19, 1900.

granules, which he regarded as being derived from the coloring matter of the red blood-corpuscles.

The parasitic origin of malaria has been suspected and advocated for a long time. Thus in 1837 Mataxà wrote: "There is no objection to the belief that the parasites of intermittent fever, the first generation of which is exhausted in the first periodic attack, may go on to a second generation in the same body. . . . The duration of the attack being equal to the life of the parasite." Later Rasori said: "For many years I have been of the opinion that intermittent fevers are produced by parasites which recreate an attack in the act of their reproduction, this occurring at more or less rapid intervals, according to the species." Mitchell, in 1849, followed in the same line of argument. Meckel in 1848, and Virchow in 1849, noted the presence of dark granules in the blood of patients who had died of intermittent and remittent fevers, and the relation of this pigment to malaria was soon established. The malarial parasites were first discovered by Laveran in 1880, and their varieties, developmental cycles, and relations to the different clinical forms of malarial fever were determined, chiefly by Italian investigators, during the following decade. King in 1881, Manson in 1894, and Ross in 1897, in showing the part played by certain species of mosquitoes as intermediary hosts for the malarial parasite and as conveyers of these from one human being to another, and McCallum in 1898, in proving the sexual capabilities of these organisms, have completed the circle of our knowledge of malaria.

The parasitology of malaria is intensely interesting and extremely important, but a fuller discussion of this I will leave to the distinguished gentlemen who will follow me, contenting myself by presenting only those facts which are necessary to preserve a continuity of thought and to serve as a basis for my argument.

For example: The parasites of estivo-autumnal fever, as filamentous sporozoites, are introduced into the blood current of man by an infected mosquito. Their presence in the venemosalivary gland and duct of such mosquitoes may be readily demonstrated, but they have not as yet been observed in the liquor sanguinis of man, and the exact mode of their entrance into the chromocytes is unknown. However, after a few days the parasite is clearly in evidence in the blood of the infected person.

As seen within the chromocyte, in fresh blood preparations, the young parasites are small, whitish, protoplasmic masses, possessing amebic movements. When at rest they assume a lenticular form, but from this they pass, by a shifting of their protoplasm, into the most varied regular and irregular shapes, one of which, the

annular, is very characteristic of this particular malarial parasite. The organisms develop at the expense of their respective hosts, appropriating the substance of the corpuscles by absorption, accelerated by moving and changing pseudopodia. They increase in size, a peculiar pigmentation takes place, the infected corpuscles seek the spleen, bone-marrow, and other deep-seated organs, and at the end of their vital cycle of about forty-eight hours the interesting phenomena of segmentation and sporulation occur, with destruction of the affected chromocytes, and the discharge into the blood current of the sporules, remnants of segmentation, débris of corpuscular destruction, and organic toxins. These correspond in time to the initial and subsequent febrile paroxysms. In this form of malaria the parasites do not, as a rule, all mature at the same time, and the fever is therefore of the remittent or subcontinuous type.

The recently freed spores are small, round, homogeneous bodies, devoid of motility. Many of these quickly adhere to and penetrate within the red corpuscles and enter upon a new cycle. Those which fail to do so are removed from the blood plasma by phagocytosis or undergo solution.

After several of these cycles have occurred, there begin to appear in the blood those peculiar bodies known as crescents, of which the spindle-shaped, ovoid, and round bodies appear to be modifications. These will be fully described by Dr. Preble, and it suffices for me to say that they are the sexually mature forms of the organism. They are sterile and innocuous in man, but under a different and special environment—that is, in the Anopheles—become sexually active and undergo a further development with reversion to their elementary form. Sexual activity, to a greater or less extent, may indeed be witnessed in the fresh blood preparation, after the expiration of twenty or thirty minutes, the male bodies becoming flagellated, some of the flagellæ breaking away and making attempts at entering the female bodies, success in which completes the sexual act, but this you can scarcely expect to witness. The impregnated female body changes its form, becomes elongated and beaked, and is endowed with great propelling and penetrating powers.

Let us now hurriedly follow the malarial parasite through the mosquito. When the Anopheles has ingested crescent-laden blood from a malarial human being, there occur in the middle intestine of the parasite's new host those phenomena of flagellation and insemination which have been described. The impregnated body penetrates into the intestinal wall, becomes greatly enlarged, and in about two weeks ruptures and sets free a very large number of filamentous sporozoites. These find their way

into the circulation and accumulate in the tubules of the insect's venemo-salivary gland. When this has taken place the mosquito is capable of infecting, by its sting, a healthy human being with estivo-autumnal fever.

In this connection a number of related facts deserve special consideration. The development of the malarial parasite in the mosquito must proceed along the lines described in order that the insect may convey the infection from one human being to another—that is, the mosquito must ingest the sexually mature organisms, not the young forms, and must inject into its victim the fully developed sporozoites. So far as is now known, man and the female Anopheles are the only animals in which the malarial parasite will complete its vital cycles. All the sporozoites in an infected mosquito are not discharged at a single sting, and they may remain in the tubules of the venemo-salivary gland, in a potential state, for a long time, certainly through a hibernating period, and for these reasons such an insect may infect any number of persons, and probably remains throughout its life an element of danger to the community.

The study of the other malarial parasites is of equal interest and importance with that of the estivo-autumnal, but time will permit only the most cursory reference to those of tertian and quartan fevers.

Compared with the estivo-autumnal parasite, that of tertian fever attains a larger size, with greater ameboid, pseudopodal, and pigment granule activity. The infected chromocyte becomes very large and pale. The sexually mature organisms are round bodies, and flagellation is less frequently witnessed. The vital cycle of the parasite is forty-eight hours, and sporulation corresponds in time to the paroxysm of the resultant benign intermittent fever.

The parasite of quartan fever, compared in like manner, has less motility, both of protoplasm and pigment. The pigment granules are larger and darker. In segmentation the organism presents a striking rosette form. The infected corpuscles are not enlarged. The sexually mature forms resemble those of tertian fever. The entire development of the parasite occurs in the general blood current, and every phase may be readily observed. The vital cycle is completed in seventy-two hours, and corresponds with the paroxysm of the resultant benign, but very resisting, quartan intermittent fever.

The malarial organisms of every variety vary in virulency within wide limits. In consequence the clinical pictures differ infinitely in detail. Relapses, due to incomplete destruction of the parasites in the blood, are frequent.

Let us now consider, cursorily, the malarial mosquitoes.

With our present knowledge it may be safely asserted that it is in the mosquito, of the genus Anopheles, that the malarial hemosporon undergoes its extra-human cycle of development, in which the organism reverts to its elementary form, and that the female insects of this genus are the only disseminators of malarial disease.

The mosquitoes of the genus Anopheles may be shortly described as follows: The black palpi are about as long as the proboscis, being three- and four-jointed in the male and female respectively. The legs are long and end in hoofs or dentated claws. There is a crown of scales upon the neck, and the abdomen is hairy, not squamous. There are several varieties, of which the *Anopheles quadrimaculatus*, with four pigmented spots upon each wing, is in this country the most important, although two others have been found. These mosquitoes differ from those of the genus Culex, which are those ordinarily encountered in the vicinity of Chicago, in being larger and darker, and, as is more important for ready recognition, by assuming a position with the right-line body at a greater or less but distinct angle with the surfaces upon which they repose; whereas the culicidæ rest with their humped bodies parallel with the surfaces upon which they sit. Compared with the Culex, the Anopheles is a mezzo-soprano or contralto, as its note is several tones lower.

Only the fecundated females survive the winter, by hibernation, and in the early spring these lay their eggs, which are quite distinctive, upon the surface of natural pools of stagnant water. These pass through their larval and pupal stages in from twenty-five to thirty days, and from three to five generations appear during the summer. Only the female stings.

These mosquitoes are essentially rural, or at most suburban, and are found by accident only in towns and cities. They are naturally domiciled in damp woods, thickets, and bushes, the females leaving these only when in search of prey. They do not rise to any great height; do not migrate far; cannot withstand a strong breeze; and are most active in the shade and at night, especially at twilight.

Malarial infection occurs in the natural manner, as has been stated, by the introduction of the parasitic sporozoite into the human blood current by the sting of an infected Anopheles mosquito. Upon the truth or falsity of this statement rests the whole question of individual and communal prophylaxis. It can be affirmed in the most positive manner, however, that the assertion is true, as has been abundantly proved by observation and direct experiment. Inasmuch as there must be, necessarily, many gaps, doubts, and apparent inconsistencies in ordinary observation, it

will be best for our purpose to appeal at once to the unequivocal evidence of direct and guarded experiments.

1. Sections of infected mosquitoes have been made, notably by Italian investigators, which show every phase of the developmental cycle of the malarial parasite, from the entrance of the impregnated body into the intestinal wall to the sporozoites crowding the tubules of the venemo-salivary gland and central duct.

2. Mosquitoes from infected regions have been transported long distances to malaria-free localities and made to sting healthy persons who had not recently been in malarial regions, with the result that some of the persons stung have been given malaria.

3. Mosquitoes have been propagated in laboratories, and without previous opportunity have been made to suck blood from malarial patients with sexually mature parasites in the blood, and after allowing sufficient time for the completion of the Anopheles cycle of parasitic development, when such infected mosquitoes were caused to sting healthy persons malarial fever, of the same type and parasitic peculiarities as that affecting the original patients, was conveyed to the persons stung.

Malarial fever, identical in clinical and parasitic types, may be, and often has been, artificially conveyed from one person to another.

The period of incubation of estivo-autumnal fever is, by direct transmission, from two to fifteen days; and by infection in the natural manner it is from seven to ten, possibly fourteen, days. In tertian fever it is, by direct transference, six to twenty-one days; by the mosquito fourteen to twenty-one days. In quartan fever it is by the direct method ten to twenty-one days; in the natural manner the extreme limit may be much greater.

Some persons are much more liable to be stung by mosquitoes and infected with malaria than are others. This applies particularly to comparatively recent arrivals in a malarial region. On the contrary, there are some racial and individual peculiarities which seem to afford a certain amount of protection against malaria. The so-called tolerance which some persons are said to attain to malaria is very often, in truth, a state of constant infection, and is in no sense an immunity.

The cure of malaria, for the purposes of our argument, extends beyond the present relief of symptoms. It must prevent the development in the blood of sexually mature parasites and must eradicate every form of the organism. Practically this may be accomplished by the intelligent and systematic employment of quinine, as will be given in detail by Dr. Favill. The necessity and desirability of the prompt and complete cure of every case of malaria can scarcely be overestimated. To the individual it

reduces his suffering, his peril, and his financial loss. To the community it means one less focus of infection, a lessened risk of or residence in the locality, and increased material prosperity.

With our present knowledge of the varieties of the malarial hemosporon, including their vital cycles and habits, together with like information concerning the Anopheles mosquitoes, and of the incidental etiological factors of malaria, we are prepared to intelligently consider the problems of individual and communal prophylaxis. The immense importance of this subject is self-evident.

The individual may protect himself from malaria with a large assurance of success by avoiding in every practicable manner the stings of malaria-bearing mosquitoes, by keeping out of their way, by preventing their access to his person, by driving them away from him. He should, if possible, keep away from malarial regions, or should absent himself during the season of greatest malarial activity. If that is not practicable, he should choose his residence at as great a distance as possible from collections of stagnant water, woods, groves, and exuberant vegetation, on ground which is the highest and best drained that can be found. The doors and windows should be effectually screened with wire netting, the screen-doors provided with self-closing springs, and the window screens so arranged that they will follow the window up or down in such a way that the window cannot be opened without the screen automatically taking its place. There should be absolutely no unscreened openings. He should not venture out-of-doors before sunrise or after sunset. He should use proper protective clothing; the hands should be protected by gloves, and the neck and face by a veil netting. Quinine, in ten- or fifteen-grain doses, should be taken regularly every fourth to sixth morning. There can be no doubt as to the efficacy of quinine, properly administered, as a prophylactic. As is well known several, at least six or eight, days elapse after the infective sting before the organisms become sufficiently numerous in the blood to produce a malarial paroxysm. Introducing a considerable quantity of the parasiticide into the circulation will destroy those which may be present; and if such a large dose be given in the morning, the usual time of parasitic sporulation will be accurately anticipated, and the young organisms are at once introduced into, to them, a lethal solution and are destroyed; hence the frequency, size, and time of administering the preventive dose. The measures which I have outlined are intended to be the most rigid which can be well adopted.

Public prophylaxis in malaria is a complex question, which must be considered from various points of view. For example, there are large problems in agriculture and sanitary engineering;

in social and political economy; in epidemiology and public medicine, in the solution of which we, as physicians, will be required to aid the experts in those allied sciences. In the reclamation of malaria-ridden lands efficient drainage is a *sine qua non*. Some of the lands may lie so low that restraining levees or dykes must be built, and the drainage water, after being collected in basins, pumped out. In regions in which it will flourish, the eucalyptus serves a useful purpose in the upward drainage of the soil. Wherever practicable, intensive systems of cultivation should be encouraged. All these measures have for their object the destruction of the breeding-places for Anopheles; but more can be done to diminish these pests. If it can be done, all waters should be kept in motion; they should be stocked with fish, because these destroy the mosquito larva; in the vicinity of residences stagnant waters may be thinly covered with petroleum.

The Anopheles itself may be driven away and destroyed. This mosquito will not be found within the range of the eucalyptus. In the evening these mosquitoes are attracted by a bright light, and if such, with a reflector turned away from the habitation, have beneath it a wide, shallow basin of petroleum, great numbers of the insects will fall into the oil and be destroyed. It has been asserted, and future observations may prove its correctness, that these mosquitoes are attacked and destroyed by parasitic fungi, and the cultivation of such should be encouraged. Various substances are obnoxious to the mosquito, and these should be used in rooms and about houses for the purpose of driving these insects away, or even killing them. Of these agents the most generally useful are the odor of camphor, the smoke of tobacco and of eucalyptus leaves, and the fumes of burning sulphur.

It is very important to destroy every mosquito possible in the autumn when these insects seek the shelter of houses, rooms, closets, stables, caves, hollows of trees, etc., and some of the insecticides mentioned should be employed. By killing the mosquito at this time the occupants of these places are not only spared the sting of a possibly infected insect, but these pregnant females are prevented from increasing the Anopheles population of the next season.

All the measures advocated for individual prophylaxis are applicable, when suitably modified, to communal prevention. I am of the opinion that in malarial regions the local governments should furnish, *gratis*, quinine, with suitable directions, to every inhabitant for prophylactic and curative purposes. There can be no question as to the necessity of furnishing quinine, as above, to the poor, but, as stated, I believe it expedient to extend such

provisions to all. This plan has been followed for several years in Java with the greatest success.

From a public health standpoint it is of paramount importance (1) that no case of malarial fever be allowed to develop; (2) that if malarial fever should develop, it should be promptly cured. It cannot be amiss to again state the facts, that the sexually adult malarial parasites only appear in the blood after several paroxysms have occurred, and that if these be prevented from forming by appropriate treatment, mosquitoes cannot obtain the only forms of these organisms which can have a life cycle in the Anopheles, rendering these insects dangerous to man. It follows, then, other things being equal, that in all malarial regions these specific fevers will prevail to a much less extent in the one in which the rules above stated are most closely observed. In order that these measures may be intelligently carried out, there should be public physicians, clothed with police power to enforce reasonable rules, established by the local health boards. The application of the principle of bounties and fines might be found a very efficient administrative auxiliary.

In conclusion, as a rule it is in malarial regions that the soil yields to human labor the most abundant returns, and such regions are capable, with the elimination of malaria, of supporting the densest populations. It is in such lands that, because of the risks incident to malarial infection, enterprising and aggressive capital produces the largest dividends. There is, then, every commercial incentive for men to encounter and subdue the parasitic foe, and take safe possession of this empire, and I am optimistic enough to believe that, in time, this will be accomplished. In the desirability of bringing about this result public and private interests unite, and although you and I will not, there are probably some persons now living who may see the day when, in this country, malaria will be only a memory, and the Anopheles a tradition.

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THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

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EDITORIAL ARTICLES.

THE BURDEN OF METHOD.

System is undeniably necessary to the proper conduct and regulation of life—especially professional life—in this busy and complex age, and without some judicious regard for it nothing of great and permanent value can often be accomplished. But when this normally excellent quality degenerates into mere particularity it serves to defeat its own object. Hence the rigidly systematic person will frequently find that in his careful solicitude concerning the means, he may neglect or lose the end. "He who has no taste for order," wrote Lavater, "will be often wrong in his judgment, and seldom considerate or conscientious in his actions." But carried to that extreme point where the slightest interruption or smallest provocation is sufficient to destroy one's calmness of mind, or overthrow his plans, it becomes essentially a burden rather than a staff to lean upon. One so constituted may justly be compared to a nicely constructed machine, which continues in rhythmical operation so long as each and every part remains in exact order, but which can move no longer after displacement or injury of the most insignificant detail. Such a one is compelled to wait the ebbing and flowing of personally favorable opportunities, and can seldom be persuaded to undertake an object unless it be at the precise moment and exactly agreeable to the particular plan previously marked out. He seemingly forgets that the tide of life and of affairs flows alike for all, and that it is favorable only to those who can carefully observe and improve it as it passes.

But the chief burden of dull, unrelieved system consists in the fact that it allows scant room for the exercise of those generous passions and feelings which confess no allegiance either to time or tide, and yet give rise to many of the noblest of sentiments, words, and deeds. Such instincts ought never to be disregarded

when they are approved by judgment, and are suitable to the time and place. Overwrought methods apply the rule and the compass, the plumb and balance-weight to every duty, and righteously deal out just what they find to be proper measure, rigidly guarding against scantiness and overplus alike. They will waste hours in weighing the benefits and consequences of contemplated actions of doubtful importance, and once determined upon they are exhausted before real effort has been begun. Such infinite refinement of system excites sympathy, exhausts patience, and lessens the force of results.

EDITORIAL NOTES.

Ancient Christian Science.

The fact that modern Christian science is no new thing is well shown in an address on "Medicine in Egypt," recently delivered by Dr. R. W. Corwin before the Colorado State Medical Society. He said:

"In the early days of Egypt patients were sent to the temples for treatment if able to move or be moved, or sat beside the road where they might be seen and prescribed for by those who had had similar ills. When a priest-doctor was called to the bedside of the sick, his only hope of curing the patient was through prayer. In those days it required no thought or knowledge to be a doctor, no experience was of service, no scientific investigation desired; dissection was considered unholy; vivisection criminal—even the undertaker who made the incision for disemboweling for embalming was mockingly whipped, stoned, and chased. Prayer and faith were the 'All-in-all;' incantations the only possible means of cure. These ignorant, superstitious healers depended entirely upon mental impression. If the malady was slight or the endurance of the patient great, the prayer healer got the credit of effecting a cure. If the patient died (although in that day it was claimed there was no death) evil influence, stronger than the power of the gods, predominated, and the prayer of this self-appointed, ignorant priest, doctor, or healer, like those of the sinner of the present time, availed nothing. The world still moves in cycles."

ITEMS AND NOTES.

There are now nearly four hundred women pharmacists in the United States.

The Sisters of St. Joseph have made arrangements to open a new hospital at Elgin, Ill.

The nuns of the Order of St. Francis will erect in New York City a surgical and medical hospital, at a cost of about $500,000.

The British Association for the Advancement of Science held its seventy-first annual meeting in Glasgow September 11 to 18, under the presidency of Prof. Arthur W. Rucker.

The thirteenth annual meeting of the Tri-State Medical Society of Alabama, Georgia, and Tennessee will be held at the Tulane, Nashville, Tenn., on Tuesday, Wednesday, and Thursday, October 8, 9, and 10, under the presidency of Dr. M. C. McGannon, of Nashville. The secretary is Dr. Frank T. Smith, of Chattanooga.

The National Academia de Medicina offers two prizes of 500 pesos each for the best article on the subjects: "Means that should be adopted (1) to prevent abortions and still-births, and (2) to diminish the number of deaths in the first five years of life." The communications must be in Spanish, sealed, and sent to the secretary of the Academia, J. G. Uruena, before October, 1902.

It is stated by an exchange that Surgeon-Major-General W. A. Thomson, M.B., who is honorary physician to King Edward, has been selected for a good-service pension of one hundred pounds a year. It is nearly fifty years since he received his first commission as an army surgeon. He has served in many parts of the world, and at the time of his retirement in 1892 he was principal medical officer in India. He was appointed honorary physician to Queen Victoria in 1895.

Dr. S. W. Abbott, of the Massachusetts State Board of Health, is reported to have said, according to *American Medicine*, that during the past ten years every case of malaria investigated in that State had been traced to the presence in the neighborhood of Italian laborers. The disease has prevailed for some time in Concord and at Billerica, and the board states that in both cases the evidence tends to show that it was introduced into these towns by the laborers engaged in digging up the streets when constructing the water-works and sewerage systems.

In Germany during the year 1900 there were 230 persons bitten by animals suffering, or suspected to be suffering, from rabies. This number showed a considerable decrease as compared with 1899, when 303 persons were bitten. Of the above 230 persons, 187 were treated in the institution for infectious diseases in Berlin by injections of Pasteur's antirabic serum; the remainder were either treated at home by cauterization or other methods, or did not receive any medical treatment at all. It is remarkable that rabies did not develop in any instance either among the patients who received the injections or among the others, so that no case of rabies in the human subject occurred in Germany in 1900. The bites were inflicted by 162 dogs, five cats, and three cattle. Post-mortem examination showed the existence of rabies in 102 dogs, two cats, and three cattle, and of suspected rabies in 44 dogs and one cat.—*Lancet.*

The system of workmen's insurance in Germany is, according to the *British Medical Journal*, a huge piece of State machinery. The magnitude of the system may be estimated by the fact that it pays out, in one way or another, about 1,000,000 marks ($250,000) a day. The sick workman has no longer to trouble himself as to how he shall obtain money to pay for medical treatment, and what will become of his family should he himself be rendered unfit for work. The workman whose earning power is reduced by an accident connected with his employment now obtains just compensation; and the aged poor have the satisfaction of knowing that, although they can no longer work, they can still, owing to the insurance system, contribute their share toward the expenses of the household, and are not obliged to depend on the earnings of their children or on ordinary public charity. The system of workmen's insurance has been gradually built up within the last seventeen years, but it is admitted that improvements are required and gaps have still to be filled in.

The city of Berlin has, according to *American Medicine,* received at the hands of Professor Mendel a quite severe rebuke for the inadequacy of asylum accommodations for the insane poor. Berlin had in the year 1873 in the public asylums 459 patients, or 1 pauper insane to 1803 of the inhabitants. At the end of the year 1900 the number of inmates in the free asylums had increased to 3390, or 1 to 557 inhabitants, and during this period the city had increased the asylum accommodations in proportion to the increase of population of the city but 3.2 times. Hence, at the end of the year 1900, in addition to the above patients, the city must commit to private asylums at the municipal expense 1589 patients. There is now in process of erection a new asylum which

can accommodate 1600 patients, but since December 31, 1900, the 1589 patients for this asylum has increased so that should it be at once opened the city accommodations would still be too limited. Since this asylum will (it is stated) not be ready for occupancy for four years, the Professor warns the city of the necessity of at once starting another (the city's fourth) asylum.

"Most profane expressions," says the *Medical Press and Circular* of May 8, "are the fossil remains of religious terms or ejaculatory prayers, and the history of profanity is intimately bound up with the history of religion. What interests us from a psychological point of view is less the origin and precise significance of profane expressions in general use than the reason for their employment. It is held by some that profane objurgations are instinctive or imitative relics of the habit of our wild ancestors of simulating the cries of ferocious animals and of uttering sounds calculated, by their harshness or their volume, to inspire terror. By and by came the time when certain words became sacred by reason of their religious associations, and their employment in verbal warfare would, it was hoped, cause fear by reason of their awful associations; or, later still, because their unconventional use being severely punished, the deed savored of reckless violence. A few centuries later men took to utilizing the anathemas of the church for their private purposes, and sought to inspire fear by evoking images of torture and endless suffering. The angry primitive man tried to shock his enemy by calling on thunder and gods; and the angry modern man consigns him, in tones of awful wrath, to eternal punishment. From the shock of terror there came the shock of temerity in taking holy names in vain, so that the greater the reverence of names of saints or places of deity, the greater is the shock to the man sworn at, and, presumably, the greater the relief to the man swearing."

The *Army and Navy Register* is authority for the following: The Surgeon-General's office of the War Department continues to be deluged with all sorts of suggestions for the prevention of disease, most of them being proprietary remedies, of special use for troops in the tropics. The military occupancy of Cuba, Porto Rico, and the Philippines has created the impression somehow that our troops there must be languishing in all sorts of known and unknown complaints, most of which are to be cured only by medicine presented by those most interested. In one year there have been as many as 796 communications to the Surgeon-General on this subject, most of them from patriotic individuals, generally old ladies, who send simple remedies rescued from some household pharmacopœia. Another class of suggestions comes from

the sellers of proprietary articles, the venders of nostrums, and the inventors of quack medicines. The third class of advice comes from specially endowed persons who possess infallible remedies and the inevitable "sure cure," of which, by the way, more than 200 in one year had to do with the prevention and cure of yellow fever. Some of the Samaritans are willing to be employed by the government and to operate entire hospitals or wards of hospitals in carrying out their ideas of preserving the health of the military. The medical authorities of the army are in the peculiar position of being obliged to acknowledge all these communications in such a manner as will not commit the government or furnish anything to those in the commerce of medical supplies which may be used for advertising purposes.

The treatment of lupus by phototherapeusis, after the method of Finsen, has, according to *The Lancet*, been adopted in Paris as in other scientific centers of Europe. There is one set of apparatus in working order at the St. Louis Hospital, the great French school of dermatology, and another is at work in a private dermatological institute. There are, however, two grave obstacles in the way of applying this treatment in a wide-spread manner, one being the length of time necessary and the other the expense. Each sitting lasts one hour and requires the attendance of a specially trained nurse for each patient. A great step in advance has, however, been taken by means of the apparatus devised by M. Lorted and M. Genoud, of Lyons. Mr. Gastou has just given a set to the French Society of Dermatology and Syphilography. The apparatus is based on the same lines as that of Finsen, but is much more powerful, and the condensers necessary in Finsen's apparatus have been done away with by intercepting the luminous rays as near their point of origin as possible. As in Finsen's apparatus, there is a special arrangement for cooling the rays. The results are superior to any hitherto attained. It is possible to affect an area almost double that formerly operated upon, and the photochemical intensity of the rays is so great that the time of exposure necessary is reduced from one hour to fifteen minutes. Besides the economy in attendants which this brings about, it must be noted that Finsen's apparatus required a current of from 60 to 80 amperes, which the ordinary electric light mains can easily supply. These important improvements will allow the light treatment to be much more generally used than heretofore. Its results are without doubt remarkable, but up to now the expense attendant on the treatment has precluded its general application.

NEW PUBLICATIONS.

A TEXT-BOOK OF GYNECOLOGY.

This text has been prepared in accordance with the well-considered method of assigning topics to various writers, and by dividing the labor, producing a volume that is modern and advanced in every branch of the subject with which it deals. The contributors are those whose names are well known in American gynecology. The work thus formulates itself into one which serves very adequately the purposes of a working manual for practitioners and students. The typographical work has been admirably done, and the volume is in all respects an attractive one.

A Text-book of Gynecology. Edited by Charles A. L. Reed, A.M., M.D., President of the American Medical Association (1900-1901); etc. Illustrated by R. J. Hopkins. New York: D. Appleton & Co., 1901.

ORTHOPEDIC SURGERY.

In his treatise on orthopedic surgery, the author has endeavored to outline very carefully the methods of examination and to indicate fully the principles of treatment. The advances perpetually being made in the mechanical treatment of deformities are accurately exemplified in the author's descriptions. This work is thoroughly modern in tone and spirit, and gives evidence that it has been compiled by a master of the subject of which it treats.

A Treatise on Orthopedic Surgery. By Royal Whitman, M.D., Instructor in Orthopedic Surgery and Chief of the Orthopedic Department of the Vanderbilt Clinic in the College of Physicians and Surgeons of Columbia University, etc. Illustrated with Four Hundred and Forty-seven Engravings. Philadelphia and New York: Lea Brothers & Co., 1901.

SYPHILIS: ITS DIAGNOSIS AND TREATMENT.

This little volume, while it contains nothing new, is a concise *résumé* of the latest conclusions regarding the history of the disease and the best methods of treating it. The book contains a large number of very good cuts, showing the various manifestations of syphilis as well as it is possible to do so in such a manner.

The volume will be found of value to the general practitioner on account of its conciseness.

Syphilis: Its Diagnosis and Treatment. By William S. Gottheil, M.D., Professor of Dermatology and Syphilology, New York School of Clinical Medicine; Dermatologist to the Lebanon and Beth-Israel Hospitals, the West-Side German Dispensary, etc. Profusely Illustrated. Pages, 216. Price, $1.00 net. Chicago: G. P. Engelhard & Co., 1901.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Elimination of Peritoneal Infection and Prevention of Surgical Peritonitis.

The peritoneum has, according to E. Clarke (*Journal of the American Medical Association*, Aug. 10, 1901), an enormous absorbing function, being capable of taking up three to eight per cent of the entire body weight in an hour.

Minute solid particles are carried in an incredibly short time from the peritoneal cavity through the diaphragm into the mediastinal lymph vessels and glands, and thence into the blood circulation, by which they are quickly distributed to the abdominal organs and to the bone-marrow.

The granular bodies are at first largely transported as free bodies, swept along by the lymph currents, but later the leucocytes act as carriers.

There is normally a force in the peritoneal cavity which carries fluids and foreign particles toward the diaphragm regardless of posture, although gravity may greatly favor or retard the current.

After the introduction of microorganisms into the peritoneal cavity there is great decrease in their number within the first hour, both through their intraperitoneal destruction and through their rapid absorption into the general system where they are dealt with. There is therefore no possibility of limiting free infectious matter to any part of the peritoneal cavity by mechanical means.

Vigorous streptococci which remain behind develop in six hours a repellent or destructive quality for leucocytes, and the lethal combat is therefore inaugurated and well under way before drainage as employed can possibly exercise any beneficial action. In many cases, therefore, in which surgical drainage is employed the patient recovers in spite of and not because of it.

A moderate amount of virulent organisms carried by the blood to the lungs, liver and spleen, kidneys, gastrointestinal tract, and bone-marrow may be destroyed or eliminated without the least harm to the patient, whereas if the same amount of infectious matter is detained about a surgical field in the abdominal cavity, or

stagnates in a dependent pocket, it may generate myriads of others, and thus overwhelm the patient.

In many cases, therefore, drainage as ordinarily employed is superfluous, or even dangerous, and the rational method is to remove all possible débris and infectious matter by thorough irrigations, and to leave one liter of salt solution (six per cent) in the abdominal cavity. In order to promote and hasten natural drainage, supplement this by an enema of a liter of salt solution given while the patient is well under anesthesia and in the Trendelenburg posture.

Under this plan the patient is greatly stimulated, shock is minimized or averted, the urinary excretion is greatly increased, and thus toxic matters are more easily eliminated without irritation to the kidneys or the bladder; peritoneal infection is quickly eliminated while yet minimum in amount, thirst is alleviated or entirely prevented, intestinal peristalsis is promoted, and consequently tympanites is of less frequent occurrence; and early action of the intestines evacuates infectious matter thrown out into this canal by the blood-vessels of the villi.

All of these factors combine to reduce mortality after abdominal sections, to decrease pain, discomfort, and the complications of the first forty-eight hours, and finally to hasten the recovery of the patient.

Rapid Restoration of the Functions of a Divided Ulnar Nerve After Suture.

Tousaint (*British Medical Journal,* Aug. 24, 1901) reports an interesting case in which suture of an ulnar nerve that had been accidentally divided two years previously was almost immediately followed by restoration of movement and sensation in the corresponding hand. The patient was a French soldier, aged twenty-three, who, in November of 1898, was severely wounded just above the left wrist in thrusting his forearm through a pane of glass. This injury was followed by distortion of the left hand, with loss of sensibility of the last two fingers, and also by severe pain extending along the course of the ulnar nerve. When the man came under the author's notice at the end of last year, it was found that tactile and thermic sensibility, together with feeling of pressure, had completely disappeared over the digital distribution of the injured nerve. The muscles of the hand supplied by this nerve were paralyzed. The first palmar interosseous muscle had lost all apparent contractility even under the influence of the electric current, and the ring and little fingers were bent on to the palm. Voluntary apposition and separation of the

fingers were, the author states, reduced to their most simple expression. Trophic disturbances were indicated by the absence of hairs over these fingers, by longitudinal furrowing of the nails, and by the soft and glossy skin.

On December 21 the author exposed the separated ends of the ulnar nerve, and fixed the lower end into a vertical cleft cut in the bulbous upper end by catgut sutures passed through each segment of the nerve trunk. On the following day the patient complained of pain in the last two fingers, and stated that he could move the little finger. On December 24 the dressings were removed, and then it was found that voluntary movement of these fingers had been restored, together with cutaneous sensibility, both to the contact of external bodies and to heat and cold.

This case, taken together with two well known instances reported by Tillaux of rapid restoration of nerve function after secondary suture of the median, furnishes an encouraging though very exceptional example of nerve suture. The good results in the author's case are attributed to the care taken to approximate the ends of the divided ulnar, and to keep those ends together by sutures passed through the whole thickness of the nerve.

The Mortality of Operations for Gall-stones.

Kehn (*Medical Press and Circular,* Aug. 28, 1901) says that the mortality is small so long as the pathological changes are not too extensive and not too far advanced, but it is larger when the affection is complicated by carcinoma or purulent cholangitis. So long as the calculi are limited to the gall-bladder and cystic duct the mortality will not be much above two or three per cent. If the stones are still in the choledochus the mortality will be higher (four or five per cent), but so long as there is no diffuse purulent disease operation need not be considered dangerous. The prognosis is, however, just the opposite when the infection reaches high into the bile passages, and when carcinoma is a complication. Simultaneous operation on the stomach and intestines raise the mortality to a possible twenty per cent if malignant disease is present. If the pancreas is diseased the mortality will depend on the possibility of curing it. The mortality after gall-stone operation will not be further reduced until the cases are brought to the surgeon earlier, and the frequent temporary improvements brought about by treatment in Carlsbad and Neuenahn are a bar to this, as hopes are thereby raised and operative treatment deferred. The experienced operator has a great advantage over the best physician, as the latter rarely has the opportunity for

visual and manual instruction afforded by operation or autopsy. Internal treatment has been but little advanced by advances in knowledge. Now, as before, operations are nearly always performed too late. In the cases seen by the writer the indications for operation have nearly always been empyema, inflammatory hydrops, frequently recurring colic, chronic closure of the choledochus, adhesive processes, with ectasia of the stomach and pylorus, etc. With these conditions the pathological changes in the bile passages will have been advanced. In the case of malignant complication, also, the opportunity for sufficiently early operation will only be exceptionally afforded to the surgeon, and in a certain proportion of cases neither the physician nor the surgeon will be able to do anything.

Surgical Hints.

The September number of the *International Journal of Surgery* contains the following hints:

In bullet wounds of the head the bullet itself is commonly too small to give symptoms of compression. If the latter exist they point to pressure by hemorrhage or fractured bones, and an operation is indicated.

In plastic operations in which a flap is to be removed we must always bear in mind the fact that these flaps will contract, and that for this reason they must be cut at least one-sixth larger than the space to be covered.

When removing large grafts with a razor, for skin-grafting, allow a stream of saline solution to run over the razor while cutting. This will help it to cut better, and lifts up the grafts, preventing them from adhering to the razor, and facilitates their removal.

After blows upon the head, when a period of consciousness follows the first symptoms of concussion, and is later again replaced by a state of unconsciousness, there is evidence that cerebral compression is taking place, pointing to the necessity of surgical intervention.

In pistol-shot wounds of the abdomen, prostration from emotion and fear may be very great. Pain may be considerable or practically absent. If the patient remains intelligent, the skin is warm, and the abdomen soft, he must be watched, but there is no indication for operation.

Tonsillotomy Rash.

Wyatt Wingrave (*Lancet,* Aug. 31, 1901) makes a report based on thirty-four cases which were revealed in his practice in

the course of the past seven years. Of this number three proved to be scarlet fever, while in one diphtheria developed. The remainder were simple non-specific cases.

In regard to the character of the rash, the eruption generally appears on the second or third day, either papular, roseolar, or erythematous in type. It most frequently attacks the neck, chest, and the abdomen, sometimes extending to the face and the extremities. The earliest appearance noted is the day after the operation; the latest one is the sixth day. Its duration is generally two or three days, but may extend to five days. After reaching its maximum intensity it rapidly disappears without desquamation, but is sometimes associated with intense itching. It may occur at any age; the youngest was fourteen months and the eldest was twenty-three years.

With regard to sex, excluding specific cases, twenty were females and ten were males. As a rule there is but slight constitutional disturbance, and the child does not appear to be any the worse. Examination of the blood during the week following the operation showed an increase in the number of the mononuclear white corpuscles. This leucocytosis rarely lasts beyond the tenth day, and is hardly surprising after the removal of so much lymphoid structure. The rash may be one of drug tolerance, since most of the cases were taking sodium salicylate and potassium bromide.

MEDICINE.

A New Continued Fever.

E. J. Spratling, of Georgia, in a communication to the *Medical Record* of September 7, 1901, has the following to say:

"We had here in the spring and early summer what is to me a new fever. The trouble began with malaise for three or four days, then muscular pains, especially of the neck; there were slight chilly sensations; the temperature rose to from 100° to 102°, the pulse was 110 to 120, the respirations 30 to 40; there was nausea, the patient had a hacking cough and mental depression, sometimes amounting to melancholia. The following day the pains were more pronounced, especially in the long bones and joints; headache was severe and accompanied with photophobia and dizziness on rising; the temperature was 104° to 106°, pulse 120 to 140, respirations 40 to 60 and shallow; the abdomen was sore and tympanitic; there was gastralgia, with disgust for food; the urine was scanty, offensive, and highly colored. The mind

was periodically clouded, often actively delirious, according to the temperature, which changed rapidly, sometimes four or five marked fluctuations in the twenty-four hours; the slightest noise, disturbance, or exertion, mental or physical, caused rapid exacerbations. This was one of the characteristics of the disease.

"Thus far this fever closely resembled dengue, and might in a few cases be confounded with grippe. But in dengue the cases of a given epidemic will be much alike as to violence; in this the widest possible range was found. In several cases the temperature reached 106.5°, in many not 100°. In dengue the surroundings have but little influence; in this they were nearly all-powerful. In dengue whole families are usually affected; in this rarely more than one member. The temperature of this fever was very susceptible to the action of antipyretics.

"The symptoms given above lasted from two to five days, then gave way rapidly, all discomfort disappearing; the appetite returned, the pulse fell to from 85 to 100, the respirations 30 or 40, and the patients expressed themselves as 'feeling fine; could get up if only stronger.' But the erratic fever and scant urine persisted for from three to ten days longer, and there were frequent profuse sweats. Then the fever ceased and the kidneys acted normally; the mind became clear, but mental and physical lassitude persisted in some cases for weeks.

"Thus we see we have a close congener of, if not actually, Malta or Mediterranean fever.

"Out of about sixty cases we found nearly one-half slight, confining the patient to bed only two or three days—the longest period was twenty-three days. The complications, in order of frequency, were bronchitis, enteritis, laryngitis, pneumonia, pleurisy, arthritis, and lymphangitis. The prognosis was good when no organic heart lesion existed, when the strength was preserved, quiet was maintained, the kidneys were stimulated with alkaline diuretics, and depressant medication was avoided.

"This is a high, dry locality, and neither malaria nor typhoid fever exists here; nor did any tests for either of these diseases give positive results in this fever."

Inhibition in Mental Disease.

Libertini has recently completed an experimental study of this subject, which is published in the *Annali di Neurologia*, xix, No. 1 (*Medical Review of Reviews*, Aug. 25, 1901).

His conception of the term inhibition is based upon the belief that the cerebral cortex constantly exerts a sort of inhibitory

tonus upon the spinal cord, through which the cord reflexes are retarded; that the reflex-time in the anterior segment of the cord is longer than that of the posterior, and that the frontal lobe exerts the greatest inhibitory power.

The principle of the experiment consists in applying a stimulus and recording the time of the motor reflex. The results of the author's investigations are summed up as follows:

1. The reflex-time in the upper extremity is notably reduced in all forms of mental disease. If the time in the normal individual fluctuates between eighty-three and eighty-six thousandths of a second, this is known to diminish in the various mental maladies in proportion to the severity of the affection and the mental decay of the subject. The minimum time is found in microcephalus.

2. Paralytics, as a rule, give a low reaction-time, which varies in different individuals, and probably depends on the various pathological localizations of this affection.

3. In epileptics the reaction-time is quite low, and was uniform in all cases before an attack, although augmenting considerably four, eight, or more hours after a convulsion.

4. As a rule a state of excitation gives more of a reduction in the time of reaction than the opposite state of depression, and especially in women.

5. Central inhibition may be regarded as an exponent of the mentality of the individual.

Etiological Factors of Tuberculosis.

The following is the conclusion of Dr. U. O. B. Wingate's paper, presented at the American Congress of Tuberculosis (*Medical Review of Reviews,* Aug. 25, 1901), concerning the etiology of the disease other than the specific germ:

"In the prevention of tuberculosis it would seem that we should give more attention to the actual natural condition of the individual and his environment, and less to the germ of the disease. To render the individual immune is of the greatest importance, not only in tuberculosis, but in all other infectious diseases, and to accomplish this desirable end the sanitarian must give more attention to the fundamental principles of hygiene. Ideal sanitary surroundings, such as the location of habitation on high, well-drained land, must be the first principle. Then the early correction of any physical defects, either hereditary or acquired, must receive our most careful attention. By such means we will be able to produce a generation of individuals who are far above

the invasion of germ foes, and to render the individual capable of resisting the invasion of infection should be the first work of the future sanitarian.

"The germs of disease cannot exist without favorable sustenance, and to cut off the conditions which favor their life and growth is more important work than their destruction after they have gained an existence. There are many individuals who will not contract tuberculosis, even though they take large numbers of bacilli into their systems. It should be the endeavor of the sanitarian to establish such conditions that all persons may possess such immunity. Fruitless, indeed, will be our efforts until we proceed along these lines as well as along the lines of germ destruction."

The Manifestations of Rheumatism in Children.

W. F. Cheney (*American Medicine*, Sept. 7, 1901) says that every complaint of pain in the limbs made by a child should receive careful attention, and never be put aside as trivial. A positive diagnosis of rheumatism may be impossible at the time, but a negative diagnosis is equally impossible. It must be remembered that the absence of redness and swelling does not exclude rheumatism in children as it would in adults, nor does the absence of fever. It is enough that the joint is tender when it is used or examined, so that the child avoids movements that bring the affected part into action, and complains of pain when it is handled. Such a condition may be only the result of traumatism—some wrench or strain received in play; but one can never be sure, and all such cases should be given perfect rest as nearly as possible. Endocarditis always threatens in the rheumatism of children, and it is better to keep the child at rest for a case not rheumatism than to omit rest in a case that is. By enforcing rest we limit the frequency of endocarditis and the extent of the inflammation in the endocardium if this complication arises; and so we decrease the probability of valvular lesion later on. Thus by rest we not only save life but we preserve usefulness, without which life is scarcely worth the having.

The Typhoid Bacillus.

Guizzetti (*Il Policlinico; British Medical Journal*, Aug. 24, 1901), continuing his researches into the ways of the typhoid bacillus when introduced into the human organism, says that in the great majority of cases the bacillus enters first by way of the intestine, passing thence through the lymphatics of the intestine

and mesenteric glands into the thoracic duct and blood-stream. Thence it becomes distributed to all the organs and tissues, but finds in the spleen and red bone medulla alone places where it can develop and thrive. It may be carried to the liver (probably via the splenic vein), and become eliminated in the bile. In all the other organs of the body, including the blood, it is usually destroyed and eliminated by the kidneys. Sometimes, however, owing to diminished resistance, it may develop to irregular situations, and so give rise to complications. In cases of extreme virulence we may even get a true typhoid septicemia. At the end of the disease the bacillus usually disappears, and last of all from the spleen and red medulla; it may remain longer, and then is confined to infarcts, abscesses, etc. The author finds no evidence that the typhoid bacillus ever enters via the respiratory passages.

Behavior of Oxyhemoglobin, Carbonic-oxide-hemoglobin, Methemoglobin, and Certain of Their Derivatives in the Magnetic Field.

Arthur Gamgee (*Lancet*, Aug. 31, 1901) says that from his experiments he has been led to believe that the blood-coloring matter, oxyhemoglobin, as well as carbonic-oxide-hemoglobin and methemoglobin, are decidedly diamagnetic bodies. The iron-containing derivatives hematin and acethemin are powerfully magnetic bodies. The differences in magnetic behavior between the blood-coloring matter and acethemin and hematin point to the profound transformation which occurs in the hemoglobin molecule when it is decomposed in the presence of oxygen. The preliminary study of the electrolysis of oxyhemoglobin and CO-hemoglobin renders it probable that in the blood-coloring matter the iron-containing group, on which its physiological properties depend, is (or is contained in) an electro-negative radical; according to analogy the iron in such a compound would possess diamagnetic and not magnetic properties.

THERAPEUTICS.

Serum Treatment of Tetanus.

At a recent meeting of the Berlin Verein für Innere Medicin, Professor Leyden (*Lancet*, Aug. 31, 1901) showed a patient who had suffered from tetanus but who had been successfully

treated by injections of Behring's antitoxin. The case was remarkable from the fact that the antitoxin was injected into the subarachnoid cavity of the spine. The patient was a stableman, twenty-two years of age, who had shown symptoms of trismus and tetanus for three days. Immediately after his admission into the Charité Hospital his spinal canal was punctured, ten cubic centimeters of fluid was withdrawn, and five cubic centimeters of antitoxin was injected. A similar amount was injected three days subsequently. After the injection the patient's temperature, which had been 41° C. (105.8° F.), decreased on the same day to 38.5° C., and on the next day to 37.4° C. (99.4° F.). Previously to the administration of the antitoxin a subcutaneous injection of morphine was given, and hydrate of chloral was administered afterward. Professor Leyden said that according to his experience cases of tetanus in which the temperature rose to 41° C. were always fatal, and that the rapid decrease of the temperature after the injection and the ultimate recovery of the patient were therefore due to the antitoxin. Another remarkable feature of the case was that there was no trace of a wound by which the infection might have been introduced. It is known, however, that horse-dung contains tetanus bacilli, and the patient being a stableman might possibly have contracted the disease by inhalation. The sputum was therefore examined microscopically, but the result was negative. Mice inoculated with the sputum showed no ill effects, but after inoculation with the patient's spinal fluid they suffered from tetanus.

Sweat Baths and Baths which Increase Bodily Temperature.

Dr. R. Friedlaender (*Philadelphia Medical Journal,* Aug. 31, 1901) says that the indications favoring temperature-increasing baths are as follows:

1. In combating infectious and toxic conditions; in acute and subacute diseases due to exposure, catarrh of the upper respiratory passages, fresh rheumatic affections of the muscles and joints, and also in other infections, the onset of which is not characterized by high fever, and in which individual conditions render an increase of the fever permissible and desirable for the course of the pathological process; furthermore in syphilis, and in a general gonorrheal infection.

2. When an intense increase of metabolism is indicated from other causes, such as autointoxication, and in conditions affecting metabolism, like gout.

On the other hand, we favor sweat baths:

1. When a cure by means of free diaphoresis is contemplated; in exudations and transudations; in nephritis with edema; in hydremia and chlorosis; in metallic poisoning; and in obesity as an adjunct to other methods of treatment.

2. When chronic inflammatory processes are to be influenced by peripheral hyperemia; in chronic and especially in rheumatic affections of the muscles, joints, and nerves; in the residual conditions of acute articular rheumatism; in chronic muscular rheumatism and arthitis deformans; in neuritides; and in tubercular arthritic affections.

The Value of Antitoxin in Diphtheria.

Concerning the use of antitoxin in diphtheria, W. R. Griess (*American Medicine,* Aug. 31, 1901) says that antitoxin should always be given as soon as the diagnosis is made with certainty. Children require larger doses, as their natural resources for fighting disease are always less than those of adults. In mild cases of diphtheria 2000 units should be given as an initial dose, and if no improvement takes place within twelve hours, it should be repeated. All laryngeal cases, or cases in which prostration is severe, should have 4000 units as an initial dose, and 2000 units in eight or twelve hours if there is no marked improvement.

Intubation in children should be practiced before the child becomes exhausted, and if not successful no time should be lost in making a tracheotomy. Before performing either of these operations, however, a stimulant should be administered, as the shock during these operations is very great. The writer has seen more than one child saved by a hypodermic of ether, injected when the patient was apparently dead, after the trachea had been opened: this, together with artificial respiration, caused the child to soon show signs of life.

The writer says in closing that he reiterates that the results to be expected from antitoxin depend especially upon two things: (1) When used in the course of the disease (late or early); and (2) in what type or class of cases it is employed.

Dietetic Treatment of Epilepsy.

R. Balint (*Berl. Klin. Woch.,* June 10, 1901) discusses the position of the therapy of epilepsy, and in comparing it with its position at the time of Galen, when valerian root was freely used, he comes to the conclusion that we have not advanced materially toward being able to check the disease. He concludes: (1) A

diet poor in chlorine is applicable in every case of epilepsy and worthy of trial. (2) The treatment should be most successful when carried out in a sanatorium or "home." (3) Until the nature of the condition is fully known, a strict "chlorine-poor" diet should be applied. (4) Beside the diet, small doses (33 to 45 grains per diem) of bromine salts should be given. (5) The easiest and most pleasant method of giving the drug is to let it take the place of NaCl, especially in bread. (6) The beneficial action of the treatment rests on the increased sedative action of the bromides, and therefore it may be useful in other nerve diseases where bromides are at times given.

PEDIATRICS.

UNDER THE DIRECTION OF CHARLES G. JENNINGS, M.D.,

Professor of Practice of Medicine and Clinical Diseases of Children, Detroit College of Medicine.

Infantile Atrophy.

Blacher (*Scottish Medical and Surgical Journal,* September, 1901) has recently made careful observations on the urine of marasmic infants. The patients selected were free from diarrhea or fever, and simply showed progressive emaciation, with loss of power to digest and assimilate food, usually as the result of chronic gastric and intestinal disease. Blacher finds that the urine is diminished to a half or a quarter of the normal, the diminution corresponding with the loss of body weight. The specific gravity is always about five degrees below normal, and as the patient begins to gain in weight it rises more quickly than does the total quantity of urine. If the urine is diminished more than half, and the specific gravity more than eight degrees, the prognosis of the case is bad. The urine is of pale color, and has a strong odor; it is highly acid, from excess of urates. The nitrogen excretion shows that the tissues are deficient in oxidizing power, the amount of urea being low, while the total nitrogen excretion remains high. The chlorides are diminished, but the phosphoric acid is relatively increased. The writer thinks that his results go to support the idea that in athrepsia a degree of autointoxication is produced. The increased ratio of total nitrogen and uric acid nitrogen to the urea nitrogen points to defective oxidizing power of the cells of the body, resulting in the retention in the blood of intermediate products of metabolism. He suggests the use of spermin to stimulate extra organic oxidation.

Huebner (*Jahrb. f. Kinderheilkunde,* 1901, p. 35) criticizes the results of previous observations on the pathology of infantile

atrophy. Briefly, his position (which is supported by experimental evidence) is that the change found in the intestines of atrophic children, and said to be characteristic of that condition, are artificially produced, and due to variations in the grade of distention of the intestine. The clinical fact that atrophy may be completely, and sometimes rapidly, recovered from is alone sufficient to prove that it cannot be due to serious organic changes in the intestine. He regards the disease as due to functional inactivity of the intestinal mucous membrane, resulting in insufficient utilization of the food.

The conclusions are: (1) In many cases of true atrophy no change whatever can be found in the intestinal wall; (2) such alterations as have been described as intestinal atrophy can be produced in the healthy bowel by distending it; (3) so-called intestinal atrophy has never been found in collapsed bowel, but always in distended parts.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
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An Unusual Type of Smallpox with Fatal Termination.

In *American Medicine* of September 7, 1901, Louis Leroy, Nashville, Tenn., records the following:

In an epidemic of smallpox which occurred this spring across the State Line from Guthrie, Kentucky, the percentage of mortality was extremely high, averaging about sixty. A number of these cases presented the characteristics of the following one:

E. G—— (colored), about thirty years of age, exposed to the disease fourteen days previously, was taken ill with violent headache, pain in the back, and high fever. Upon the third day of illness the characteristic smallpox eruption appeared. This followed the usual course, until at the seventh day it was fully pustular, the pustules being large and well filled. The eruption was rather thickly spread and diffuse, and covered all parts of the body. Up to this time the symptoms were only moderately severe, and it appeared as though the patient would in all probability recover. The secondary fever was well marked and had started to decline, when upon the eighth day all of the pus in the pustules apparently became absorbed into the circulation, leaving the skin somewhat loose where the pustules had been. It in no sense gave the appearance of a rapid desiccation, nor was any darkening or central retraction of the pustules present, as is the case when ordinary desiccation occurs rapidly. Following this

absorption the symptoms of great prostration occurred, with a weak thready pulse and general indication of profound septic poisoning. Several rigors occurred with considerable sweating. Nearly all swelling and disfigurement disappeared. Death occurred upon the ninth day in spite of all endeavors to sustain the vitality against the great depression. Shortly before death the pulse had reached 132 and the respiration 52, and the temperature varied considerably, but reached 104°.

At the necropsy the skin was found to be smooth and soft. There was no pus in any of the pustules which were opened. The lungs showed marked anthracosis and a few small cheesy tubercles were present on both sides. The spleen was small, friable, dark, and much congested. The liver was normal in size, pale and yellowish, with the capsule non-adherent. The heart muscle was soft and flabby, and a small antemortem clot was found in the right ventricle. The kidneys showed chronic parenchymatous degeneration, and one of them was quite cystic. The intestines and stomach gave no evidence of any pathologic condition.

Multiple Lupus Vulgaris Following Strumous Disease of One Elbow joint.

In *The Polyclinic,* Medical Graduates' College, London, for August, 1901, the following case is reported from Mr. Hutchinson's surgical clinic:

"A case of much interest in reference to the possibilities of infective spreading in tuberculosis came under notice in July. The patient was a young man who had large patches of lupus vulgaris on the backs of both hands and also on some other parts. These patches presented the ordinary characters of a central scar and crusted borders. He had also a large scar covering the left elbow region, and this joint was partially stiff. The external epicondyle had apparently been removed. The history given was that disease of the elbow-joint had preceded the lupus by some years, and that an operation had been performed. Probably the operation was an erasion of the joint, and the result was quite satisfactory, for there was very fair motion and the parts had been for some years soundly healed. It was not till some years after the beginning of the joint disease, and so far as the patient could remember about the time of the operation, that the lupus patches appeared. Several of the latter appeared almost simultaneously, and they had persisted ever since. It is not very often that lupus vulgaris can be traced to any probable infection from tubercular disease of other parts. More usually it stands

alone. Now and then, however, joint or bone or gland disease is found to have preceded it, and this case appears to have been an example."

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,
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The Relation of Unbalanced Physical Development to Pubertal Morbidity as Shown by Physical Measurements.

W. S. Christopher (*Journal of the American Medical Association,* Sept. 14, 1901) says there is an exaltation of life processes at the pubertal period which finds its expression not only in an increased rate of growth, but also in the development of physical power. This exaltation is preceded by a period of relative quiescence. In the sexes this exaltation differs in that it commences earlier and has a shorter duration in girls than in boys; moreover, it is more marked in girls than in boys in weight and stature, but less in measurements involving physical power.

Puberty is also a period of great individualization, as indicated by the great normal range of physical measurements at this period.

The range of physical measurements at all ages in childhood, including puberty, is distributed uniformly above and below the line of average measurement.

At puberty mortality is low and morbidity is high.

Neuroses, psychoses, neurasthenias, cardiopathies, deformities, and anemias are the principal morbid manifestations of the physical, intellectual, and emotional turmoil which characterize puberty.

The great range at puberty of the measurements of the physical features of the child expresses the condition which permits the existence in individual children of unusual lack of balance in physical measurements, or maladjustment of physical features.

Unbalanced physical development is an important factor in the production of morbid manifestations. It is operative throughout the developmental period of life. It occurs with greatest frequency at puberty, and it there finds its most marked expressions. It is found associated, in a casual relation, with most of the morbid manifestations of puberty, particularly disturbed heart action, dilatation of the heart, fatigue, anemia, and some deformities, such as round shoulders and scoliosis, as well as many of the neuroses of the period.

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ORIGINAL CONTRIBUTIONS.

TREATMENT OF MALARIAL INFECTION.*

BY HENRY B. FAVILL, M.D.

The question of treatment of malaria, so far as it touches us in this locality, can hardly be considered otherwise than trite, because it is simple with all the variations which we are able to introduce. The subject of treatment of malaria, however, concerning the world at large, is by no means simple and as trite. The battle-ground of malaria as to its therapeutics has, in the last few years, very decidedly changed. I had intended to talk somewhat upon the theme which Dr. Wells has dealt with better than I could, and consequently I shall say very little about the question of prophylaxis of malaria, the preventive therapeutics of malaria, as illustrated in the sanitary efforts of communities in destroying the various foci from which the malaria is now known to emanate.

It has been thought for a long time that the physical characteristics common to many new countries and to some countries always, the general marshy aspect of countries, favor malaria. Although this observation could not be disposed of, it was after all, to a considerable extent, modified, and a distinct reservation made with regard to it, at the time the etiological factor discovered by Laveran became accepted, namely, the etiological importance of the plasmodium. Since it was discovered the topography of the question became, in a measure, subordinated, and it was for a long time considered that we had been largely mistaken with reference to our observation as to the causative relation of the topographical features of malarial infection. However, it was not long before all of the information, conclusions and deductions which had been made hitherto became entirely consistent under the

*Read before the Chicago Medical Society, Dec. 19, 1900.

more recent discovery of the mosquito element in the infection. From that time on the marsh considerations, the stagnant water considerations, the physical characteristics of land considerations, all resumed their former importance as bearing upon the question, not so much in the way of elucidating the life of the plasmodium with regard to its habitat, as in respect to the light which it threw upon the transference of infection through the mosquito; consequently nothing that was concluded hitherto upon that subject is it necessary to reject. That being the case, the prophylactic therapeutics of malaria becomes of enormous importance, also here comparatively unimportant.

I will not go into that further, inasmuch as Dr. Wells has already sufficiently stated it. The question becomes for us consequently one which we have to deal with in certain degrees ourselves in the treatment of the cases which we see, with a certain side-light upon those questions derived from the more pernicious and severe cases which we do not see, but of which we know. For us the treatment of malaria is essentially a simple problem. We have practically no difficulty in this latitude with the treatment of malaria, yet there are reservations to be made with regard to this: first, in regard to the aberrant forms of malaria developing here, and secondly, with regard to the imported malaria, which may present all the complications and difficulties belonging to malaria of the tropics, whence it has usually been imported. Consequently, what we have to deal with, as a rule, in malaria is in the highest degree simple; what we have to deal with here as the exception may be as complicated as anything which occurs anywhere.

I wish to urge particularly, and I think I may urge it safely without danger of throwing away words, that the diagnosis of malaria be confirmed before specific treatment is commenced. I cannot too strenuously urge this upon the profession. In spite of the fact that a small amount of quinine, administered to a malarial patient, may bring out evidences of the malarial parasite, which possibly would never have become evident without it, the greater fact is that it is possible to mask effectually the diagnostic evidences of malarial infection by the routine administration of quinine; and personally I have come long ago to withhold my prescription of quinine in a case which I suspect to be one of malarial infection until I have at least made an attempt to justify the diagnosis microscopically, the same as I might, in a case of syphilis, withhold mercurial treatment for the development of diagnostic certainties. In either case exception occurs. I believe that it is wise to urge upon the profession this point, as we see more and more the importance of establishing a diagnosis of malaria before beginning specific treatment. It is a little trouble, but when we

come to consider the therapeutic confusion which arises in two directions from the failure to do this, you will agree with me that it is not beyond our needs. In the first place, a case which is assumed to be malaria, in which the diagnosis is a matter of speculation, in which the treatment is instituted vigorously upon that speculation, which does not happen to recover promptly or at all on that line, becomes a source of irremediable confusion and mistake.

Once having assumed that you have a case of malaria, having administered quinine vigorously, and supposing the case not to have done, from that time on it is more than likely that you will not be able to clear up the diagnosis when you have been forced finally to the microscopic investigation. It is more than likely that you have destroyed evidences of the infection which you were trying to establish, and which may be there all the time. Again, the fact that all manner of diseases which are not malarial may recover under the administration of quinine is additional reason why rational therapeutics should not be further encumbered by that sort of misinterpretation. We have assumed in the past, and are perhaps assuming now, in so far as we are derelict in this matter, that quinine is of diagnostic value in multitudes of cases in which it is absolutely worthless as evidence of the nature of the infection. Consequently, in behalf of the clinical side of the individual case, which is thrown into confusion by the clinician on the one hand, and for the value of the general mass of clinical data, we knowing false conclusions and false interpretations to add to the impetus of false therapeutics, it is desirable in the highest degree that we should stop abrupt diagnoses in a territory which will admit of certain demonstration.

Assuming that we have made a diagnosis of malarial infection, how far are we able by scientific, accurate differentiation to go? That is a question which is prominent to every practitioner who has listened to the clear and attractive exposition of the scientific aspect of this subject as we have heard this evening. How much are we assisted therapeutically by these clear discriminations? In the simpler forms of malaria which we see nowadays, typical rarely—that is to say, the simple form of benign infection, with chill, fever, and sweat daily, or on alternate days, as the case may be—there is little need for any special scientific demonstration of the type of fever, because by the time you can get the type determined your clinical manifestations and your therapeutic results have demonstrated it. Malaria in this section of the country is not a complicated matter. On the other hand, when it comes to estivo-autumnal fever we get at once into difficulties. We see in this section of the country very few cases of estivo-autumnal fever. Previous to the last four or five years I had seen

very few cases of this form of malaria. What we have seen here has come from two sources, as a rule. The cases have either been imported from tropical regions, as the disease found in our soldiers, or in people who are brought in sick, mostly laborers, from various parts of the country where this type of malaria is dominant.

As to the blood findings in these cases as influencing our therapeutics, they are discouraging in some respects. We find many cases whose resistance to treatment is not satisfactory, not gratifying, and it is no doubt true that there is a distinct difficulty in dealing with this form of infection with quinine, although quinine remains the remedy *par excellence*. If we could tell what to do with a case of estivo-autumnal fever, after having made the diagnosis early, it would be a great relief. As a matter of fact, we cannot tell. Why? Because they run such an infernal course; they run such a baffling, irregular, sometimes extreme, course, in their clinical history, as to be almost beyond our therapeutic reach. To be sure, the majority of them recover. But enough of them do not recover, and enough of them are not benefited by the specific remedy for the trouble; yet there is no doubt that quinine is a direct antagonist to the estivo-autumnal parasite as it is to other forms of organisms. Nevertheless, these organisms do not yield, for some reason which is not purely associated with the peculiarities of the organism. There must be other questions which come in, and the fact is difficulties in therapeutics present themselves in connection with this class of cases. What are they liable to do? They are liable to run for weeks with high fever, in spite of the fact that large quantities of quinine are administered to them under conditions which make it practically certain that the quinine has been more or less absorbed.

What are you going to do in a case of demonstrated malaria which does not yield to quinine, and which goes on and on and on developing its fever daily for long periods of time? Is it possible to throttle, to swamp this malarial infection by the administration of a superabundance of quinine? That is the practical question we have to meet all the time. I say all the time—I mean all the time when we are considering this class of cases. Can we, by administering a sufficient amount of quinine, stop the rapid course of infection? You are all familiar with the cases which call for the heroic administration of quinine; you are all familiar with the cases which have taken from half a drachm to two drachms of quinine per diem, and which have perhaps been influenced very little by such administration of quinine. These things we have seen one time and another, and we have decided to go on administering heroic doses of quinine in cases of this kind. Some of them have recovered, others have not. The question is and always

will be, until we have demonstrated it, whether the cases that did recover under those circumstances recovered because of the quinine, or whether the cases that did not recover would not have stood a better show to recover if they had not been so heroically dosed with quinine. On this point I must say that the question is difficult to answer, even to myself. You are aware of what the literature says upon this subject. The literature will say that fifteen, twenty, or thirty grains of quinine a day is enough for any case of malaria. We know there are lots of cases in which it is not enough. In others it may be too large.

Are we going to deal with those cases heroically or not? It is a grave question when we come to it. When we consider the condition of the stomach, the resentment of the patient against quinine, starvation along with infection, when we are dealing with all manner of cachexiæ with infection, the question is a grave one. Shall we, or shall we not, be heroic in the exhibition of quinine? Again, in this same connection it becomes necessary to make some reservations, for the reason that some practitioners say that enormous doses of quinine are not absorbed. "The reason quinine does not act is because it is not absorbed by the gastrointestinal canal." If it is not absorbed, except for the local damage it does, it does not do any harm. If we could only be sure it is not absorbed there would be some comfort in it. This question is not to be settled upon the basis of non-absorption of quinine. There is reason to suppose that under such circumstances large quantities of quinine are absorbed, and yet are ineffective. What alternative methods of administration have we? Three: the hypodermic method, the rectal method, and the intravenous method. There has been more or less controversy regarding these methods. I think we are all agreed that the rectal method is unsatisfactory, yet I have seen occasions when, because of the great dyscrasia of the patient, I did not dare to resort to the hypodermic administration of quinine because of the almost certainty of producing local necrosis, and I had given drachms of hydrochlorate of quinine per rectum, apparently with some benefit, combining the rectal method with the administration of it *per orem*.

I have resorted to all sorts of methods to get quinine into the patient, but its value has been questionable under some circumstances. I have heard it stated in a public discussion that the hypodermic administration of quinine was impossible—that is, that its effective administration was impossible, the reason therefor being given by a physiological chemist or therapeutist that the quinine produces a wall of coagulation of albumin about it and the drug is not absorbed. Any man who has had to deal with the administration of quinine hypodermically knows that is not so. The hypoder-

mic administration of quinine is possible and is extremely effective. Of course, there are objections to it. The dangers of local necrosis are great, because it has a tendency to set up necrotic action, and the patients on admission are cachectic. One may give a slightly acidulated preparation of either the sulphate, the bisulphate, or bimuriate of quinine hypodermically. So much for the question of extreme manifestations of toxicity. I won't say extreme manifestations of infection, and I question whether there is not some associated or consecutive toxemia in connection with these cases. They certainly are very far from being satisfactorily accounted for as mere variations in the malarial toxin.

Then comes the further question of the complications of malaria, such as were suggested in the category recited by Dr. Edwards. We have an enormous territory of difficulty here. We have brain symptoms, vascular and visceral symptoms, with nerve symptoms, evidences of the presence and intensity of malarial infection. The question arises, are they consecutive evidences of degeneration and deterioration, organic in character, consequent upon the malarial infection which is no longer existent, or not? Upon that question must turn our therapeutics. If we are dealing with a case of extreme, immediate reaction to malarial infection, then the demand is for quinine. But if we are dealing with questionable degeneration of tissue in any organ consequent upon a depraved systemic state, intermediate between the final result and the infection, then how much good will quinine do us? This is a question difficult to settle in therapeutics. Have we the direct result of the continuous infection, or have we the indirect result of an infection which is no longer operative? Sometimes we have cerebral symptoms occurring, with all the evidences of capillary thrombi—thrombi of the larger vessels in the encephalon as the immediate result of an existing operating infection. Thrombosis, with malarial organism, is the contributing basis. Under such circumstances, although quinine perhaps has comparatively little influence upon the lesion, unquestionably the systemic condition of the patient demands quinine in abundance. But given the same pathological lesion, if you like, the same anatomical lesion, the thrombus being due to deterioration of the blood or to the corpuscular elements operating upon the sluggish blood current, in consequence of the various things we have here, how much good do we get out of quinine under such circumstances? Obviously, the answer is none. Hence the diagnosis is of the utmost importance; indeed, it is the most important of all the questions which will arise in connection with malarial infection, and unfortunately, for the most part, the diagnosis cannot be made. We cannot tell whether we are dealing with a continuous infection, or with the

indirect results of the infection. As a rule, our therapeutics blunder along, and we give quinine because we have nothing else to do.

To pass on to the consideration of other questions: What are the terminal aspects of malarial infection? For the most part, as Dr. Edwards has stated, the terminal lesions, so far as we know, are in the nervous system. But intermediate between them, and existing in all cases of prolonged malaria, is the pronounced attack upon the integrity of the blood, with deterioration of the blood, and as a corollary the rejuvenation of the blood becomes the important question in all cases of malaria after the infection is once subdued. There comes in judgment of building up the blood after the malaria has disappeared.

Two things remain to be said: First, the best way to administer quinine in the simple cases. Unquestionably the best way to administer it in those cases in which there is a distinct paroxysm is before the onset of the paroxysm or during the paroxysm, and not in the latent period, because of the specific effects of the drug upon the organism. But we see little of those cases now. For the most part the administration of quinine can with reasonable certainty be distributed through the day, and it will almost invariably fulfil the purpose and secure good results. In difficult cases how shall it be administered? In repeated moderate doses, or in large and concentrated doses? Much will depend upon the characteristics of the case. The point is to introduce quinine into the blood, provided it is a case in which the quinine ought to be in the blood. How are you going to do this? It is a question that cannot be settled *ex cathedra*. The drug must be administered according to the necessities and possibilities of the case. The point is to get the quinine in the blood in sufficient quantities, and this leads to the statement that there is no such thing as a dose of quinine. A dose of quinine is that which will produce the desired effects, whether it be five or thirty grains, and this will depend largely upon what the exigencies of the case dictate. But it is not a thing to be determined upon the weight of quinine, but its effect.

When we come to the results of malarial cachexia, we drift into general therapeutics. I have already gone beyond the length of time allotted me, and though having left a great many things unsaid, I prefer to close.

INSANITY AS A DEFENSE IN CRIMINAL CASES.

BY B. D. EASTMAN, M.D., TOPEKA, KAS.

There are five points of view from which insanity as a defense in criminal cases will be considered:

1. The judicial.
2. The medical.
3. The popular.
4. The individual.
5. The expert.

The Judicial View.—Knowledge of right and wrong is the judicial test as to responsibility for crime. Every person by the common law is supposed to be sane and responsible unless the contrary is shown by the party pleading insanity as a defense. To make it a successful defense, insanity must be shown to be the result of disease either congenital or acquired, and to be of such extent as to destroy the power of distinguishing between right and wrong as to the particular act in question. It is not sufficient to claim that the accused has been impelled to commit crime, but he must be unable to discover or appreciate his legal and moral duty regarding the act in question. Indeed, as to moral influences impelling to crime, the bench has laid down the dictum: "Every crime was committed under an influence of such a description; and the object of the law was to compel people to control these influences" (Rolf. B. in Rogers *vs.* Hemet). Judge Cox in his charge to the jury in the Guiteau case said: "An irresponsible insane man can no more commit murder than a sane man can do so without killing. His condition of mind cannot be separated from the act. If he is laboring under disease of the mental faculties, if this is a proper expression, to such an extent that he does not know what he is doing, or does not know that it is wrong, then he is wanting in that sound memory and discretion which make part of the definition of murder." The judge further states that if insanity be established to the degree which may be called total insanity, the defense is perfect. But it is in the so-called cases of partial insanity (for want of a better term) that difficulty arises. For a person afflicted with so-called partial insanity may commit offenses with which his infirmity has nothing to do; or he may commit a criminal act the nature and consequences of which he fully understands, and to the doing of which he is led by the same considerations that ordinarily govern in such cases.

Time will not allow an extended reference to judicial utterances on this question, and while the dictum laid down in the celebrated McNaughten case, that knowledge of right and wrong

determines responsibility, has been somewhat mitigated in recent years, it still constitutes the substantial basis of judicial utterance.

The Medical View.—Many medical writers held to the view that whenever there is any mental disease the party is entirely irresponsible, and insist that there is no distinction between medical insanity and "legal insanity." On this subject Spitzka says: "On some occasions the question of defining what is called 'legal insanity' may be presented to the reader of these lines. When that question is asked, he may safely challenge the questioner to show him a broken leg or a case of smallpox in a hospital ward which is not a broken leg or a case of smallpox in law; to show him a tumor or a softening of the brain, which is meningitis or sclerosis in law, or to define the conditions under which any disease-symptom becomes an indication of health. When these conditions are complied with, and not till then, may the physician attempt to define 'insanity in law' as distinguished from insanity in science. In the meantime, he may rest contented with the dictum of one of the best legal authorities that that cannot be sanity in law which is insanity in science, just as nothing can be a fact in science and a fiction in law at one and the same time."

But there is a growing tendency among psychiatrists to look upon this view as too extreme to meet the practical every-day requirements. Theoretically, every person who is mentally diseased in any degree is of unsound mind, just as every one who is affected with any physical infirmity is of unsound body. But a person may fall short of perfect soundness of body and not be incapacitated for general physical activity. It may be only when his infirmity is brought in contact with a certain class or standard of material demands that his physical impairment becomes manifest and he exhibits physical incapacity. A broken leg is a broken leg both in medicine and law, but a medically diseased leg need not be a legally useless one.

There is no question that in cases of total insanity (as expressed by Judge Cox) there is total irresponsibility. It is in those cases which lie along the border-line between sanity and insanity, and when at times the mind may be controlled by ordinary considerations, and at others be under the sway of unusual, morbid, irrational impulses, that doubt and difficulty arise. Just as bodily disease may exist to an extent which requires medical treatment but does not incapacitate for most of the ordinary physical responsibilities, so there may be a limited mental impairment which demands medical treatment, but does not ordinarily incapacitate for most of the moral responsibilities. It is only when some unusual psychic demand is made that mental incapacity is clearly manifested. The border-land of insanity, the debatable ground

between complete responsibility and clearly admitted irresponsibility, is a broad step with ill-defined, irregular, ever-shifting boundaries.

The Popular View.—The popular view is variable, volatile, and impulsive. It is as likely to err one way as the other. In a well-marked case of total and previously recognized insanity the popular view will generally be correct, but in other cases the public may jump at a conclusion that will be erroneous. In the one case the popular verdict may hold the perpetrator sane and responsible because insanity has not been publicly manifested, when in fact it undoubtedly exists; in another case atrocity is held to show insanity when every indication points to deliberate, predetermined, responsible action. Such conclusions depend often upon the confounding of the unnatural condition which generally determines criminal acts with an irresponsible one due to disease. Thus, in a case of alleged patricide, the atrocious circumstances led many to say that if the party charged therewith committed the act he must have been insane, when the circumstances were such that an admission that the act was committed as charged necessarily carried with it an admission that the party accused thoroughly comprehended the nature and consequences to himself by aid of an intermediary.

Another phase of the popular view which not unfrequently sways a jury in deciding upon a verdict is in reality simply a sentimental justification of the act in question, as when a man wreaks his vengeance on the despoiler of his home or seducer of his daughter.

The Individual View.—When a person has been arraigned for the commission of a serious crime—homicide, for instance—for which he has no other defense, his friends, his lawyer, and frequently he himself turn to insanity. It is all at once brought out that he has been subject to "spells," and whether these "spells" be actual attacks of insanity or epilepsy, or are due to drink, to violent, unrestrained temper, or to inherent viciousness, they are made to do duty as indicative of irresponsibility. In this way much discredit is brought upon the legitimate use of insanity as a defense. The rule is that the really insane do not admit their insanity.

The Expert View.—These different views of insanity come more or less in conflict whenever insanity is alleged as a defense in any criminal trial. The end and aim of judicial procedure is, or should be, to arrive at the truth. One of the methods by which it is sought in criminal trials is to enlighten the court; counsel often attempt to use the expert to confound the jury.

The great difficulty with which the expert witness has to con-

tend, and which often misleads and confuses the jurors or induces them to ignore his testimony, is that he is selected or "called," as it is termed, in the interest of one side. He becomes, often unconsciously, amalgamated to the side which calls him, and being obliged to give his testimony in answer to a shrewdly formulated hypothetical question, he is prevented from giving the jury and court the assistance which it should be his proper function to render.

Various methods have been suggested as likely to enhance the real value of expert testimony and still preserve the rights of each party. In my opinion, the best way to secure competent, unbiased, helpful expert testimony, would be a provision of law authorizing the judge in every case where insanity is alleged as a defense to appoint one or more experts to thoroughly examine the case and report their finding to the court. Such experts would, like the judge, be impartial, would seek to ascertain the truth, and, like the judge, should be paid by the State a reasonable compensation irrespective of their finding. Such finding would be what all expert testimony ought to be, a genuine expert aid to the court.

The finding should contain the facts upon which it is founded and explain the meaning of such facts, and counsel should be allowed to introduce testimony as to the correctness of these alleged facts and to cross-examine the experts as to their interpretation of alleged facts and their bearing upon the case. The experts should be allowed to fully explain their opinions, but the distorted hypothetical question and the badgering, often ridiculous, cross-examination should not be allowed. It may be claimed that in order to accomplish these results changes in our laws would be requisite. Then let us have the changes.

THE TRAINED NURSE IN OBSTETRICAL CASES.

BY C. C. MAPES, LOUISVILLE, KY.

From time immemorial, and I might say until quite recently, the personnel of the attendants upon the average obstetrical case has been about as follows: A doctor, or, perhaps, an ignorant midwife; an old negress, or, it may be, an equally aged white "granny," to act the part of nurse; and a few ignorant and interfering female relatives or neighbors.

The appliances considered necessary adjuvants were: A pair of dirty forceps; a pair of equally dirty scissors; a few pieces of old dirty sheet, some soiled towels or dirty rags; an old blanket

or quilt; a piece of dirty cord for ligating the funis. What an outfit!

Is it a wonder that thousands of women have lost their lives from sepsis following normal labors surrounded by such an array of unclean hands, instruments, and appliances? Still, it must be admitted as true that a great many women have passed safely through the parturient period in the presence of just such filthy conditions; they have survived in spite of the septic surroundings and equally septic attendants.

In some localities the conditions which obtain among the colored race and the poorer classes of white people to-day, especially in remote country districts, are little better than above depicted. Of course the lying-in chamber of the modern city mother is a model of cleanliness, and this also obtains in all of the hospitals and infirmaries where such patients are received, but even in the latter puerperal sepsis is not an infrequent visitor. That it does not occur with greater frequency I believe to be due to the painstaking care with which the trained nurse prepares the patient for the ordeal through which she is to pass, and the careful and intelligent after-treatment which is carried out. Again, let me ask, is it not a wonder that all women who are confined in unsanitary, unhealthful, septic surroundings, cared for by unskilled and septic attendants, do not promptly succumb to puerperal septicemia?

In those remote regions where the trained nurse is an unheard-of luxury, the doctor often unobtainable, or regarded as an unnecessary, expensive individual, the patient is left to the care of ignorant neighboring housewives, or an equally ignorant, filthy midwife. Not infrequently does a simple country woman give birth to a child unattended except by members of her own family, passing quickly and safely through the puerperal period, being up and attending to her usual household duties within seven days. I have personal knowledge of one case where a girl baby weighing six pounds was born on Monday morning, and the mother was out of bed on the following Wednesday. Not an unfavorable symptom developed at the time nor subsequent to her imprudence.

That many more of these patients die of septic infection following unclean accouchement than are reported I firmly believe; that septic infection can be absolutely prevented by proper care before, during, and after delivery appears also to be true.

If it were possible in all these cases to secure the services of competent, educated, and intelligent trained nurses, and thoroughly competent accoucheurs, there would appear to be no reasonable excuse for the development of puerperal sepsis. Septic infection does not come from clean hands, sterile instruments, clean towels,

and other sterile accompaniments; there must be an infecting principle somewhere, and this is usually introduced from without, granting, of course, that there be present at the time no disease which can by its influence evolve sepsis. Of course, if such disease be present, every possible precaution should be observed to prevent the development of sepsis, and to protect the patient from its effects.

To the lying-in woman there is no more important desideratum than the trained nurse, whether the confinement be in a palace, a hospital ward, or a hovel. The care of the patient for some time before delivery is expected, and several weeks following it, should be entrusted almost exclusively to the nurse under the direction of the obstetrician or family physician. This plan would relieve the accoucheur of much anxiety and worry, and would in many instances save the life of the mother—perhaps also that of the child.

If a competent trained nurse has charge of a parturient, we need not fear the meddlesome old granny; the nurse will carry out the instructions of the physician regardless of the injunctions of the old women of the neighborhood, or the influence they may exert. The attending physician and the nurse should work together for the good of the mother and the child. Without this cooperation the result to one or both may be disastrous. The conscientious nurse will not knowingly neglect any detail in the management of the case; but unless there exist harmony between herself and the attending physician her instructions may not be explicit, harm may result, and she may receive the blame therefor.

In this connection it might be well to epitomize from an exchange a few paragraphs in regard to the Hindu lying-in chamber. The writer of the article states:

"In the last meeting of the State Medical Society I took the position that the usually accepted opinion among physicians of a low mortality rate among child-bearing women of uncivilized people was an error. Their ignorant practices, their filthiness, their superstition, the woful absence of any except instinctive knowledge, lead us to expect a high mortality. Any other result would set at naught all our theories of asepsis. The testimony of competent observers establishes this position; this account of the Hindu lying-in chamber confirms it.

"The mortality in childbed among Hindu women is notoriously high, a circumstance which is no doubt largely due to the early age at which they become mothers. A still more potent cause, however, is to be found in the shocking and apparently deliberate barbarity with which they are treated during the puerperium. The lying-in chamber of a Hindu family is ordinarily a little, damp,

ill-ventilated hut or room in some remote corner of the courtyard or compound. In this the expectant mother is placed, and there she remains from eleven to thirty-one days, during which, according to Brahminical law, she is looked upon as unclean. There is only one small inlet to this apartment, and the door is carefully closed to exclude those evil spirits, light and air. In order probably to purify the unfortunate woman by heat, wood fires are kept burning in the room both day and night. The smoke has to find its way to the outer air as best it can through any chinks there may happen to be in the roof or walls, which are usually made of bamboo with a thatching of mats or straw. With the view of more effectually exorcising the unclean spirits a powder composed of peppercorns or ginger is given to the patient during the first few days; this preparation is administered either in the form of a paste or dissolved in boiling water as a tisane. It is not surprising to learn that the result of this elaborately perverse therapeusis is that something like forty per cent of the women subjected to it die of puerperal fever and tetanus within the first fortnight after delivery."

That both the maternal and infantile mortality, under the circumstances cited, is not one hundred instead of forty per cent, is a source of wonderment. How a human being can undergo such treatment, or lack of treatment, and survive, is one of the many mysteries of nature. That either the mother or the child can endure such torture seems almost incredible. What a field for the trained nurse and the modern obstetrician!

The evils of the midwife in this part of the country are perhaps not so great as elsewhere. A midwife occasionally attends a parturient, however, and the writer is aware of cases where sepsis promptly developed owing to her dirty methods, the physician not being called until the patient was beyond human aid.

A word or two concerning the illegal practice of midwifery may not be out of place. A recent writer says:

"Among various customs and manners imported by our large foreign population is that of entrusting the care of childbirth to midwives instead of physicians. This custom is quite general throughout Europe, and care is taken to avoid evil consequences therefrom by requiring their registration after examination before allowing them to practice. In this country, however, the functions of the midwife are of a limited character. Among our own American people they existed previous to the institution of trained nurses, as the old familiar monthly nurses, but were even then merely an adjunct of the regular medical attendant in charge of the case. But with the influx of foreigners midwives came into the country, unobstructed by any specific legislation, and not requiring

the license or sanction of any medical or public board; and it was not until the boards of health and the medical profession in our large cities were aroused by the ignorance, want of cleanliness, and general incapacity, and frequent criminal practices, of these women, that legislation on the subject was attempted.

"In 1893 the attention of the New York Society for the Prevention of Cruelty to Children was called to open violations of law by certain notorious keepers of so-called 'lying-in asylums,' who advertised ostensibly for that purpose in the daily papers, but whose places were more frequently resorted to for the purpose of criminal abortion. The society vigorously prosecuted and secured the conviction of a number of offenders. Finding their business thus seriously interfered with, many of the midwives upon legal advice proceeded to form a 'Midwives' Association,' and quite a number of them obtained articles of incorporation under the Hospital Act (Laws of 1889, chap. 95), and as such secured a certain personal immunity. This, however, is now being tested in the courts.

"The facts above cited prove conclusively the need for a careful legal supervision of the practice of midwifery in the cities at least, and movements looking to the introduction of such regulations should be set on foot in every large city."

Fortunately people in general are beginning to realize that the midwife is a menace to the safety of both mother and child, and as a consequence the demand for her services is growing less and less. Mothers, especially those living in cities, have come to recognize the necessity of strict surgical cleanliness during the parturient period, and at least some of the dangers incident to infection. And with this understanding the services of the obstetrician and trained nurse are engaged weeks before the expected termination of the gestation. The nurse has charge of the case before delivery is anticipated, and carefully notes the conditions present, and if an unfavorable symptom develops at any time, the obstetrician is immediately summoned. Provided nothing unfavorable presents itself, he is not called until just before the onset of labor.

With these skilled and aseptic attendants the woman should pass through an ideal parturition, but the fact remains that puerperal sepsis sometimes develops even under seemingly aseptic surroundings and where skilled attendants have charge of the case.

The balance of this contribution is excerpted from an article by R. R. Kime, M.D., Atlanta, Georgia,* to whom it is desired full credit be given.

Few mothers recognize the necessity for strict cleanliness at labor, or fully understand the dangers of infection. In the city, bad air, imperfect sewerage, poorly kept water-closets, crowded,

**Atlanta Journal-Record of Medicine.*

illy-ventilated apartments, close association with persons who have been with infectious diseases, the increased prevalence of venereal diseases, all conspire to render childbirth more hazardous than in the country.

City women, reared in luxury and idleness, without physical exercise, taxed mentally, with nervous system kept at high tension by manner of life, education (so-called), and the demands of fashionable society, are poorly developed physically, and not prepared for matrimony, much less maternity. With imperfectly developed osseous, muscular, and nervous systems, they are favorable subjects for invasion by disease, especially infection at childbirth. The generative organs being also imperfectly developed are more liable to accidental complications and injury during labor and retarded involution after labor.

While other factors add to the sum total of danger, the majority of diseases and accidents during the lying-in period, especially infections, are preventable by proper care and diligence upon the part of the mother, nurse, and physician.

Frequently trouble in these cases, especially infection, is due to neglect, ignorance, or inefficiency on the part of the mother or nurse, and the physician is held responsible when others are to blame.

In the selection of a nurse and attendants the mother cannot be too cautious, as her life frequently depends on the selection. Many a woman has had serious trouble and some have died as a result of ignorance, negligence, and want of cleanliness upon the part of the nurse, or as a result of her own preparation of clothing, bedding, dressings, room, and utensils to be used during confinement.

An old feather-bed handed down as an heirloom is but a death-trap.

A syringe so good that all the neighbors have used it is an abomination and as dangerous as dynamite. None but a new syringe, or one that has not been about any infectious disease, should ever be used, and not even the latter until it is thoroughly washed, scalded, disinfected, and the nozzle boiled.

The bedpan is a deadly enemy, and should never be used in any case until thoroughly washed, scrubbed, boiled, and disinfected, especially when used by the neighbors.

Sponges for cleansing off discharges are hotbeds for infection, and should never be used, nor cloths be used for a second time.

No woman should be confined in a bed or bedroom where there has recently been cases of septic infection, erysipelas, gangrene, smallpox, diphtheria, scarlet fever, measles, or any severe form of suppuration. The room and contents, bed and bedding, should be thoroughly disinfected before being used.

By many women old quilts, blankets, cloths, etc., are selected for the occasion because they save expense and can be thrown away after use. Such things are extremely dangerous, for in them lurk the germs of disease, which may cause serious infection and death when they are used without disinfection or at least washing and boiling them.

All sheets, blankets, old quilts, cloths, patient's clothing—in fact, everything that comes in contact with the body of the patient, especially such articles as have been used or soiled—should be washed and boiled in a closed vessel so as to retain part of the steam, thus destroying all infectious germs. Old cloths used to catch the discharges without this boiling are dangerous, have infected many a woman, and killed not a few.

Diseases that are considered infectious at childbirth: Septicemia, smallpox, diphtheria, scarlatina, measles, gangrene, erysipelas, surgical fever, discharge from carbuncle, abscess, or any purulent discharge from suppurating sores or diseased bones.

A dirty nurse carries germs, which develops disease. A clean nurse destroys germs, which prevents disease.

A careless nurse neglects details, and carries the insignia of mourning under her finger-nails.

A careful nurse attends to details with clean hands and finger-nails, bringing health and happiness by aseptic methods.

The nurse is second only to the physician in responsibility, and may save the life or cause the death of the patient. She should be clean, intelligent, and understand the necessity of cleanliness in these cases; know how, or be willing to be instructed how, to keep the patient surgically clean.

She should not wear any clothing worn while nursing a previous infectious case unless such clothing has been properly disinfected. No one should be allowed to enter the room, especially attend patient or handle the child, who has been about an infectious case, unless they have disinfected themselves and clothing.

The nurse should refuse to attend an obstetric case if she is suffering with any eruption or purulent discharge from any source, and be extremely careful during her menstrual period, especially if she has any uterine disease.

The nurse should see that the bed is clean and properly arranged, the mother bathed, the external genital organs thoroughly washed with soap and warm water before labor, *after bowels have been moved and bladder emptied.*

Have plenty of hot water, clean towels, wash-bowl, soap, clean cloths, scissors, spool of white thread or piece of twine, babe's clothing, and a change of clean clothing for mother, at hand, so that no time will be lost hunting and preparing them when needed.

The nurse's hands should be washed and disinfected every time before changing the dressings or cleansing the genital organs of the mother. It is also very important that this disinfection and cleansing of the hands be done after attending the mother at stool, changing the baby, and especially after attending to the cord when suppurating. *No vaginal douche should be used during nor after labor except by special instruction of the physician.*

Everything about the bed should be kept scrupulously clean; anything soiled with discharges or blood should be promptly removed.

If antiseptic occlusion pad is used the bandages, etc., should be changed when soiled, and dressings burned as soon as removed.

When pregnant the mother should place herself under the care of a competent physician, so that any complications which may arise may be recognized and properly treated. When any of the following occur during pregnancy the physician should be notified: Hemorrhage, obstinate constipation, severe leucorrheal discharge; any special disturbance of kidneys; swelling of the extremities, especially puffiness of face and eyelids; severe headache with disturbance of vision, with or without nausea; any eruptions on body or genitalia; fever with or without chilly sensations; death of the fetus *in utero*.

The mother during pregnancy should take exercise daily—best in the open air by walking. Doing nothing physically and mentally is injurious to both mother and child; while exercise is essential to good health and proper development, yet violent muscular exertion should be avoided. Regularity should be the guiding principle throughout pregnancy—regular exercise, regular meals, regular sleep, regular bathing, regular daily evacuation of bowels, regulation of kind and quantity of food, regulation of dress, avoiding extreme changes, constriction of waist or pressure on breasts, keeping extremities and feet warmly clad in cold weather, regulation of mental thought, avoiding mental excitement, prolonged mental depression, and irritable temper. Pursue pleasant lines of thought, seek congenial, elevating associations, live in a high plane of morality in thought, action, words, and deeds. Take a tepid bath at least twice each week in cold weather, each day in warm weather. A vaginal douche of a half-gallon of water, near temperature of the body, containing a tablespoonful of boric acid, should be used two or three times a week, if any leucorrhea or irritating discharge be present; use daily if discharge very free. Bowels should move each day, using a mild laxative if needed, avoiding drastic cathartics. The use of fruits and vegetables, also drinking freely of hot water one to two hours before meals, will tend to regulate bowels.

The diet during pregnancy should be of a nourishing, easily

digestible character, consisting mainly of fruits, vegetables, cereals, a reasonable amount of meats, plenty of milk and eggs.

The use of "Mothers' Friend," or medicines "to soften pelvic bones," or "prevent ossification of bones in fetus," as advised by some, is nonsense, a relic of superstition, and without scientific or reasonable foundation.

For labor have prepared: Chloroform, Squibb's, 2 ounces; boric acid powder, pure, 4 ounces; mercuric chloride tablets, 1 bottle; absorbent cotton, ½ to 1 pound, in one unbroken package; 1 dozen safety-pins; 1 cake Castile soap, best quality; 2 pieces straight unbleached muslin, 1¼ yards long by ½ yard wide, for binder, or best an old sheet, washed, boiled, and dried; a lot of clean cloths, washed, boiled, and dried; ½ to 1 dozen clean sheets; ½ to 1 dozen clean towels; 1 piece rubber or table oilcloth 1½ by 2 yards; 1 labor pad, else clean sheets or quilt, sterilized by boiling, to place under hips.

Wash-stand, 2 wash-bowls or basins; 2 water pitchers, toilet or carbolic soap; slop jar; vessel for after-birth; 1 pair of scissors: hot and cold water; 1 fountain syringe.

Before labor, if the woman has no nipples, they should be developed by traction with thumb and finger, or a bottle heated with water emptied and mouth placed on nipple. All pressure of clothing, corset, etc., should be removed from nipples. Astringents in alcohol to harden nipples render skin dry and hard and more liable to fissures, causing severe pain and frequently abscesses. If astringents (tannin or alum) are used they should be combined with glycerin, best olive oil, with boric acid, 10 grains of each to the ounce, applying it to nipple twice each day. Using cocoa butter and kneading nipple is to be preferred. All crusts should be removed from nipple and areola before applications. Exposing them to the air has a beneficial effect.

After labor the nipples should be cleansed each time baby nurses, best with a solution of boric acid one tablespoonful in a pint of water; kept in a clean bottle convenient for the purpose. Washing out baby's mouth with same solution will lessen danger of infecting nipple or breast, especially if any diseased condition of its mouth or disordered digestion be present. To prevent caking or abscess of breast, nipples should be kept aseptic (surgically clean) and breasts thoroughly emptied. If child fails to empty them the kneading process or breast pump should be used. If cakes occur *very cold* or *very hot* applications should be used to liquefy contents, then emptied. The drawing of the milk by grown people or puppies is a dangerous procedure and liable to infect both mother and baby. Bandages over breasts to prevent refilling when empty should be superintended by the physician, as should also the application of ice-bags.

CORRESPONDENCE.

THE QUALIFICATIONS TO PRACTICE MEDICINE IN MEXICO.

To the Editor of THE MEDICAL AGE:

In reply to inquiry as to the routine necessary for a foreigner to become legally registered for the practice of medicine and surgery in the Republic of Mexico, will say that I can best inform you by giving the exact routine through which my diploma passed. The same law is now in vogue.

The following data are taken from the decorations on my diploma, and are full and reliable. It was ten months from the time I started my diploma until registration was completed, and the entire cost was $168.

To the casual observer this will appear like a long piece of "red tape," but it is not; the law is a good one, and the sooner it is strictly enforced the better it will be for the entire medical profession in Mexico.

There are very few foreign physicians legally registered in Mexico, most of them practicing in open violation of the law. This is not only wrong and unprofessional, but is dangerous. The penalty is severe and is now being enforced, except a few places on the frontier in isolated districts.

To register in Mexico the applicant must possess a diploma conferring on him the degree of M.D. He must prove that the diploma is genuine and that he is the person whose name appears on the diploma. In order to do this he should place his diploma in the hands of an express company, with carefully written instructions as to every step to be taken. The express company will perform this service faithfully and with less expense than any other method. The following are the steps necessary:

The diploma must be taken to the faculty which conferred the degree. The faculty must go before a notary or other county official having notary power, and certify that the diploma and signatures thereon are genuine. It is then sent to the secretary of the State in which the diploma was issued. The secretary will certify that the notary in the county aforesaid is a duly authorized official and that his signature is genuine, and that the faculty of medicine aforesaid is duly authorized by the laws of the State to confer the degree of Doctor of Medicine. Thence the diploma goes to the governor of the State, who will certify that the signature of the secretary of the State is genuine, and places the seal of the State on his affidavit. The diploma then goes to the Secretary of State of the United States, who certifies that the signature of the governor of the State and the State seal are genuine. The Secretary of State then places the seal of the United States on his affidavit.

The diploma then goes to the Mexican ambassador in Washington. The Mexican ambassador certifies that the signature of the Secretary of State of the United States and the seal of the United States are genuine. The ambassador then places the seal of the Mexican ambassador on his affidavit. Thence the diploma goes to the Secretary of Foreign Relations of Mexico in Mexico City. The Secretary of Foreign Relations will certify that the signature of the Mexican ambassador in Washington and the seal of the Mexican ambassador are genuine. The secretary will then place the seal of the Secretary of Foreign Relations on his affidavit.

The diploma is now returned to the owner. The owner or applicant must attach to his diploma a certified photograph of himself. He must make an affidavit that he is in fact the party whose name appears on the diploma, and to this affidavit must also be attached a certified photograph of himself. He must secure the affidavit of three well known and responsible men that he is in fact the party whose name appears on the diploma, and that the photograph attached thereto is a true photograph of himself. He must now, in writing, make a petition to the governor of the State in which he wishes to practice, praying the governor, in consideration of the diploma and the evidences and affidavits attached thereto, to grant him permission to practice medicine and surgery in the State.

This petition, accompanied by the diploma and all the certificates and affidavits described above, must be sent to the governor, and must be accompanied by $78 to cover certain fees.

Now the Faculty of Medicine in the City of Mexico is the sole judge as to whether or not a diploma comes from a college worthy of recognition. If so, the diploma is accepted by the governor; if not, it is rejected and the applicant has his trouble and expense for nothing.

If the governor accepts the diploma as coming from a worthy college, he will issue to the applicant a certificate, either to practice in the State or to enter the examination for license to practice.

Some States require an examination after the presentation of a recognized and certified diploma, while others require only the presentation of a certified diploma from a recognized school.

The applicant's certificate to practice must finally be registered with the president of the district in which he lives, and he will then pay a monthly tax ranging from $2 to $10, according to the amount of his income.

Trusting that this is clear and comprehensive,

I am, yours very truly,

R. D. Robinson.

Hidalgo del Parral, Chih. Mexico, Sept. 18, 1901.

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

All communications regarding papers, reports, etc., should be addressed to the Editor of THE MEDICAL AGE, P. O. Box 484, Detroit, Mich.

Matters relating to advertising space, etc., to be addressed to the Publisher, William M. Warren, Box 484, Detroit, Mich.

EDITORIAL ARTICLES.

TUBERCULAR TOXINS IN MILK.

The conclusions of Koch, in regard to the comparative harmlessness of tubercular cattle, have not been readily acquiesced in by the scientific world, but they have stimulated research in a field of investigation from which valuable data cannot fail to be deduced. Among the latest investigations on this important subject must be mentioned those recently undertaken by Michelazzi, of the Patho-Anatomical School of Pisa.

The kernel of his conclusions is as follows: In a tubercular animal in which the nipple is intact the passage of the bacilli cannot be verified, but the serum of this milk is far more toxic than the serum of the blood in the same animal. This toxicity depends upon the rapid elimination of toxin by the mammary secretion. The toxin passes through the milk in different proportions according to the gravity of the process, but the toxin maintains its toxic property unaltered. Boiling does not destroy this harmful protein, and this is therefore insufficient to render milk alimentarily perfect. Tubercular milk that has been so sterilized is still capable of determining a chronic intoxication of the organism. There would seem from Michelazzi's researches to be no necessary relation between the blood serum and milk serum, in the matter of protective antitoxins. He holds that the milk of cows becomes gravely affected, and can produce a distinct marasmus, even if the nipple be intact and the bacillus does not pass through it. The importance and practical point of Michelazzi's researches is the assurance he gives that while the mamary gland may be intact in a tubercular animal, the secretion coming from it is undoubtedly able, by virtue of its contained toxins, to determine a degeneration of the glandular epithelium.

The notion that the protective proteids are elaborated commensurately with the poisonous process is one which is attractive

to the speculative scientist, but it must be confessed that as far as knowledge of the subject goes the dangers of tubercular milk have not been mitigated by any optimistic estimate of the protective qualities elaborated by the serum from which it is derived.

EDITORIAL NOTES.

Mosquitoes as Carriers of Leprosy.

The suggestion recently made by a French physician, M. Blanchard, that mosquitoes may possibly be the carriers of leprosy, is one that might very well with profit be made the subject of a thorough investigation. Now that scientists have proven beyond a doubt that yellow fever and malaria are spread by these little pests, it is by no means impossible that the contagion of leprosy may not also be conveyed by them.

Narcosis Before Chloroform Administration.

Owing to the many fatal accidents due to the administration of chloroform, surgeons all over the world have from time to time devised some means or other with which these fatalities may be avoided. Schneiderlin, of Vienna, some time ago proposed a form of narcosis by means of scopolamine hydroform with morphine, which he used with some success. Korpp, of Vienna, now comes forward with a modification of this treatment, and combines chloroform. His mode of procedure is to first evacuate the intestinal canal thoroughly. About seven o'clock on the morning in which the operation is to be performed, he orders a light breakfast of some fluid, and at 8.45 he gives 1-150 of a grain of scopolamine hydrobromide with 1-10 of a grain of morphine hydrochlorate subcutaneously, and at 10.30 a second similar dose. If by this time the external reflex is not quite abolished, a third dose may be given if deemed necessary. An hour after the last dose a few drops of chloroform is placed in an inhaler and administered in the usual way; only one-tenth or possibly one-third of the usual quantity is required to accomplish perfect anesthesia. In a series of eighty operations under this anesthetic he had performed amputations, extirpation of mammary carcinoma with removal of the axillary glands, gastrotomy, etc. The results were of the happiest kind, the patients resting quietly after the operation.

ITEMS AND NOTES.

A NEW Pasteur Institute will soon be opened in Richmond, Va.

A NEW hot spring has been discovered at Mackinac Island, Mich.

SCARLET FEVER is epidemic in Delray, Mich., a suburb of Detroit.

THE town of Marnes, France, proposes to erect a monument to Pasteur.

AN epidemic of anthrax among the cattle of Osnebruck, Ont., is reported.

TEN blind physicians, it is said, are active practitioners in the United States.

THERE have been nearly four hundred cases of smallpox in Quebec since the first of the year.

THE New York City Board of Health has adopted resolutions to the effect that malaria is a notifiable disease.

THE public schools of Boston, Mass., are being fitted up with bath-rooms for the use and improvement of the pupils.

THE twenty-ninth annual meeting of the American Public Health Association was held in Buffalo, N. Y., September 16 to 21.

THE New York State Veterinary Association held its eleventh annual meeting at Cornell University, Ithaca, on September 10 and 11.

THE health authorities of Tokio, Japan, in the hope of suppressing the plague, have offered a bounty for the killing of rats in that city.

TUBERCULOSIS caused 1353 deaths in St. Louis, Mo., during the year ending April 1 last, and there are at the present time in that city over 10,000 cases.

PROFESSOR CZERNY, director of the Surgical Clinic of Heidelberg University, Germany, arrived in New York recently for an extended trip through the United States.

THE President of the British Medical Association recently presented Dr. Patrick Manson with the Stewart prize, which consisted of an illuminated scroll and a check for $250.

THE second regular meeting of the Roentgen Society of the United States was held in Buffalo on Tuesday and Wednesday, September 10 and 11, under the presidency of Dr. Heber Robarts, of St. Louis.

Le Caducee, a new French journal of military medicine and surgery, was issued for the first time on July 6. It is proposed to make this journal the common property of military medical officers of all countries.

TEN THOUSAND DOLLARS will be distributed by the Porto Rica Relief Association of New York City among the various hospitals of Porto Rica that suffered from the great fire on that island two years ago.

THE announcement has been made that the next annual meeting of the British Medical Association will be held in Manchester. The president-elect is Mr. Walter Whitehead, professor of clinical surgery at Victoria University.

ON October 5, under the auspices of the Chicago Medical Society, a banquet was given in honor of Nathan Smith Davis, M.D., LL.D., who is the oldest living president of that society. The banquet took place in the Auditorium Hotel, Chicago.

THE first patent medicine, it is asserted by an exchange, ever put up for sale in America was a proposed cure for tuberculosis. It was called "Tuscarora Rice," and was compounded and sold by a Mrs. Masters, who erected a large establishment for its manufacture in New Jersey about 1711.

T. L. MONSON, who is State dairy commissioner of Colorado, has offered himself as a subject for a thorough test of Dr. Koch's theories on the question of whether animal tuberculosis can be communicated to human beings. He asks that in the event of a fatal result a suitable annuity be provided for his family.

DR. I. SAYLIN, a Buffalo physician, was arrested a few days ago, apparently on suspicion of complicity in some anarchistic plot. It was alleged that he and Emma Goldman and others met in Buffalo to arrange the details of the plot to assassinate the President. He was only held for a short time, and then released, the evidence not being sufficient to hold him.

THE examination of applicants for appointment as assistant surgeon in the army has been resumed in Washington and San Francisco. The boards will remain in session so long as there are candidates to be examined, on account of the fact that seventy-six vacancies in the medical department still remain to be filled. Full

information as to eligibility, nature, and scope of examination, etc., may be obtained upon application to the Surgeon-General, U. S. Army, Washington, D. C.

Recently in Milwaukee, at a meeting of the weather forecasters, Dr. M. H. Wilson is reported to have sent the following: "The claims made by promoters of certain health resorts that the richness of the air in ozone, the resinous gases from the pines, the peculiar purity of the atmosphere in a particular locality, or the elevation or aridity of the air act as specifics in certain diseases are not generally based on scientific investigation, but have their origin in the fertile brain of the advertisement writer."

One of the striking features of the exhibit of the Department of Agriculture at Buffalo, says *American Medicine,* is a collection of silks dyed with food adulterants. One piece of silk is a brilliant red from a substance called "rosaline," used for coloring meats, such as corned beef and sausage. A yard of pink is tinted with dye from preserved cherries, and another yard of salmon hue owes its beauty to currant jam. Various kinds of jellies give other colors; there is a fine purple from port wine, a magenta from Burgundy, a light red from tomato catsup, and a pretty yellow from soda-water flavoring.

According to the *Medical Record,* Dr. E. W. Gould, of Rockland, has probably the most novel messenger service in Maine. A short time ago he was called to Matinicus Island to attend a patient whose condition was very serious. To reach there he had to make a dangerous trip over twenty miles of rock-strewn, storm-tossed waters. Before he left the island he gave into the keeping of the family of the patient six homing pigeons, to be used as messengers to inform him of the patient's condition. The messages came faithfully and regularly, and brought assurance to the physician of his patient's steady progress toward recovery.

At a recent meeting of the American Association for the Advancement of Sciences the following officers were elected: President, Prof. Asaph Hall, U. S. N., retired, professor of astronomy at Harvard University; permanent secretary, L. O. Howard, chief entomologist, Agricultural Department, Washington; assistant permanent secretary, Richard Clifton, Agricultural Department, Washington; general secretary, D. T. MacDougal, director of the laboratories, New York Botanical Gardens; secretary of Council, Prof. H. B. Ward of the University of Nebraska; treasurer, Prof. R. S. Woodward, Columbia University, New York City. The next meeting will be held at Pittsburg, June 28 to July 3, 1902.

The Twenty-seventh annual meeting of the Mississippi Valley Medical Association adjourned at Put-in-Bay, after a most successful session, on the morning of Sept. 14, out of respect to our martyred President. The following officers were elected for the ensuing year: President, S. P. Collings, M.D., Hot Springs, Ark.; first vice-president, J. C. Culbertson, M.D., Cincinnati, O.; second vice-president, Paul Paquin, M.D., Asheville, N. C.; secretary, Henry Enos Tuley, M.D., Louisville, Ky.; treasurer, Thos. Hunt Stucky, M.D., Louisville, Ky.; chairman Committee of Arrangements, A. H. Cordier, M.D., Kansas City, Mo. The twenty-eighth annual meeting will be held in Kansas City, Mo., October, 1902.

The Comptroller of the Treasury has decided that under the Act of March 3, 1901, contract surgeons are entitled to reimbursement of actual expenses on journeys performed from April 21, 1898, to July 6, 1898, and to mileage as in case of officers of the army after July 6, 1898, and to salaries when on ordinary or sick leave from April 21, 1898, to March 3, 1901, as in the case of officers of the army. Heretofore it has been held that their contracts did not entitle them to the allowances in question. The traveling expenses and mileage are to be computed from the place of original acceptance of offer of employment to place of entry on duty.

The French National Periodical Congress of Gynecology, Obstetrics, and Pediatrics assembled for its third meeting at Nantes on September 23 to 30, under the general presidency of Dr. Sevestre, of Paris, who also presided over the Section of Pediatrics. Dr. Segond, of Paris, was president of the Section of Gynecology, and Professor Queirel, of Marseilles, of that of Obstetrics. The questions considered in the Section of Gynecology were: (1) Congenital anteflexion of the uterus as a cause of sterility, and its treatment; (2) causes favoring ectopic gestation; (3) dystocia due to fibroids. In the Section of Obstetrics the programme was: (1) Rupture of the uterus; (2) inversion of the uterus; (3) the fate of prematurely born children; (4) the uncontrollable vomiting of pregnancy; (5) radiographic measurement of the pelvis. In the Section of Pediatrics the following questions were discussed: (1) Arthritism in children; (2) meningitic manifestations in the couse of digestive infections in childhood; (3) intermittent albuminuria in the child; (4) the defense of childhood (pueri-culture, suckling, weaning); (5) conservative methods in the treatment of local tuberculosis; (6) scoliosis, its treatment of kinesitherapy (movement cure).

NEW PUBLICATIONS.

CLINICAL EXAMINATION OF THE BLOOD.

The new edition has been almost entirely rewritten, and its subject-matter is presented in a form to render it accessible in every way to the practitioner. No modern practitioner can afford to ignore the bearings of this important study upon medical science and practice. The increasing value of hematology as an exact science is amply demonstrated in the new edition of Cabot on the Blood. The fact that we are able to record in this volume the generalized conclusions of over 2800 observations on typhoid indicates the statistical foundations upon which this new science is being founded.

A Guide to the Clinical Examination of the Blood for Diagnostic Purposes. By Richard C. Cabot, M.D. With Colored Plates and Engravings. Fourth Revised Edition. New York: William Wood & Co., 1901.

INTERNATIONAL CLINICS.

The usual number of important and practical clinical lectures appear in the new volume of this excellent periodical. Among the novel and interesting features of the volume must be mentioned the important lecture of Dr. Wlaeff, of St. Petersburg, on the treatment of malignant tumors by anticellular serum.

International Clinics. A Quarterly of Clinical Lectures and Especially Prepared Articles on Medicine, Neurology, Surgery, etc. By Leading Members of the Medical Profession Throughout the World. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, U. S. A., with the Collaboration of John B. Murphy, M.D., of Chicago, *et al.* With Regular Correspondents in Montreal, London, Paris, Leipsic, and Vienna. Volume II. Eleventh Series, 1901. Philadelphia: J. B. Lippincott Company, 1901.

ATLAS OF THE NERVOUS SYSTEM.

This book is truly an atlas and not a text-book, and lengthy histological disquisitions are carefully avoided. A large portion (about two-thirds) of the book is given up to plates and the accompanying text, which, however, is only sufficient to tersely, yet clearly, explain the plates, many of which are in colors and most beautifully done. Much valuable information concerning the nervous system, both normal and pathological, is to be gleaned from a careful study of plates and text.

The textual portion proper of the book (confined to the final one-third) is divided into the morphology, the development and structure of the nervous system, the anatomy and physiology of the more important pathways, the general and special pathology and treatment of nervous diseases, concluding with a chapter on autopsy technique and the microscopical examination of the nervous system. Of special practical value is the chapter treating of the more important nervous pathways.

The book is eminently deserving of this the second edition, and will prove a valuable addition to the library both of the alienist and the general practitioner.

Atlas of the Nervous System, Including an Epitome of the Anatomy, Physiology, and Treatment. By Christfr. Jakob, Head of the Pathologic Insti-

tute for Nervous and Mental Diseases at the University of Buenos Ayres; Formerly Assistant in the Medical Clinic, Erlangen. Authorized Translation from the Second Revised German Edition. Edited by Edward D. Fisher, Professor of Diseases of the Nervous System, University and Bellevue Hospital Medical College, New York, etc., etc. With 112 Colored Lithographic Figures and 139 Other Illustrations, Many of Them in Colors. Philadelphia and London: W. B. Saunders & Co., 1901.

MANUAL OF THE DISEASES OF THE EYE.

The author of this little work has every reason to take pride in being called upon to issue a second edition within eight months after its first appearance. It is truly a student's manual, and on every page evidence is shown that its author is familiar with the needs of this class of readers. The second edition is much improved in reading matter, especially Chapters VII and XXI, dealing with diseases of the conjunctiva and ocular therapeutics respectively. A number of illustrations in the text, as well as seven full-page plates, have been added. The book cannot be too strongly recommended to the student and general practitioner as a volume of small size, yet containing all that is important for them to know in ophthalmology comprehensively expressed.

Manual of the Diseases of the Eye. For Students and General Practitioners. With 275 Original Illustrations, Including 36 Colored Figures. By Charles H. May, M.D., Chief of Clinic and Instructor in Ophthalmology, Eye Department, College of Physicians and Surgeons, Medical Department, Columbia University, New York. Second Edition, Revised. New York: William Wood & Co., 1901.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Indications for the Removal of the Tonsils.

R. C. Matheny (*Medical Record,* Sept. 14, 1901) says that the following conditions justify the excision of the tonsils:

A simple hypertrophy of the tonsils which causes them to occupy so much of the pharyngeal space as to prevent the entrance of sufficient air in breathing. But this would have to be considerable so as to cause the pharyngeal space to be of less caliber than the trachea.

In cases in which the hypertrophied tonsils have pressed on or drawn upon the pharyngeal opening of the Eustachian tube so as to close it or distort it and thereby interfere with its function.

Hypertrophied tonsils that are subject to recurring attacks of tonsillitis.

Tonsils that have previously been subject to recurring inflammations when the function of the organs has been destroyed, and which show considerable degeneration.

Tonsils whose crypts have become filled with caseous matter which is offensive, conducing to foul breath.

Tonsils that are subject to lacunar ulcerations.

Cases that have developed a quinsy habit. In these cases the removal of the tonsil generally prevents a recurrence of the quinsy.

In cases of lupus or tuberculosis of the tonsil, as well as in cases of malignant growth.

When the enlarged tonsils interfere with voice production to the extent of annoyance or incapacity for continued speech, or where they interfere with the production of pure tones in voice culture.

After the age of puberty there sometimes remains a mass of more or less fibrous tissue, occupying the tonsillar spaces, which has lost most of its lymphoid characteristics and partakes of the nature of a foreign growth; when these are inimical to comfort or well-being they should be removed.

Two Cases of Chronic Hydrocephalus in Infants Treated by Tapping and by the Introduction of Aseptic Air in the Place of the Fluid.

Wm. Ewart and Lee Dickinson (*British Medical Journal,* Sept. 7, 1901) report two cases of chronic hydrocephalus in infants

which were treated by tapping and by the introduction of aseptic air in the place of the fluid. The writers say that with due precautions the fluid of chronic hydrocephalus may be completely evacuated from the yet unclosed skull of infants, and aseptic air may be allowed to take its place. This operation may be repeated without detriment and with scarcely more risk than belongs to the usual method of paracentesis. In favorable cases of moderate effusion a single operation may suffice. Continued oozing from the puncture for a few days after the removal of the tubes is not unfavorable. In cases of considerable effusion an obvious indication is to relieve the brain from the weight and from the pressure of the fluid. The evacuation is facilitated by the introduction of the aseptic air. In one of the cases this treatment proved to be of decided advantage. By a timely repetition of the operation a hydrocephalic infant might be enabled to carry the weight of the head, and if the treatment was begun sufficiently early permanent damage to the brain tissue might be averted and a normal development perhaps ensue. In large heads, whilst hydropneumocephalus persists, a considerable splashing sound is readily obtained. There is obvious risk in eliciting this sound by forcible succussion, and for the same reason any abrupt movement of the head is to be avoided.

Abscess of the Liver.

Kobler (*Virchow's Archiv,* Bd. clxiii, Heft 1, 1901; *British Medical Journal,* Sept. 7, 1901) discusses the causation of abscess of the liver, and especially its relation to dysentery. In preantiseptic days liver abscesses were common and were due to pyemic processes. Since then statistics of the disease have been scanty, and affections of the area drained by the portal system supply the greater number of cases, especially inflammatory affections of the cæcum. Kobler analyses 79 cases from the Institute of Pathology and Anatomy at Vienna. Thirty-one of these occurred in connection with occlusion of the bile-ducts (23 gall-stones, 7 carcinoma, 1 ascaris lumbricoides). Seventeen were secondary to disease in the portal area (6 disease of the female genital organs, 4 dysentery, 3 typhlitis, 1 pancreatic abscess, 1 suppurating hemorrhoids). Pyemia accounted for 13 cases; in 18 either the cause was not discovered or arose from echinococcus (8) or contiguous suppuration (4). In Bosnia the disease appears to be unusually common. In the Sarajevo Hospital 10 cases were examined post-mortem in six years; in 8 of these there was dysentery. Two other cases operated on in the hospital were secondary to dysentery, and Schweiger has published records of 26 other cases in Bosnia, in 20 of which dysen-

tery was present. In this country dysentery is endemic, and accounts for the large number of cases of liver abscess. A comparison of the two sets of statistics shows that any conclusion as to causation drawn from the records of a single locality is likely to be fallacious.

Treatment of Simple Fractures of Long Bones.

Tuffier (*Bull. et Mem. de la Soc. de Chir. de Paris,* June 25, 1901) holds that in order to bring about complete reduction of a fracture of a long bone, and perfect coaptation of its fragments, it is necessary not only to make out the nature of the injury but also to make sure of the results of the attempts at reduction by the repeated application of the *x*-rays. If the fragments cannot be brought into what is called mathematical coaptation by ordinary means, the author would expose the seat of fracture, bring the ends into perfect contact by careful and patient manipulation, and maintain them in position by a metallic suture. A contrast is drawn between the results of ordinary or clinical reduction and of those of radiographic or anatomical reduction; and a long list is given of troubles, both primary and remote, which are likely to follow an inaccurate consolidation of a broken bone. Tuffier points out the necessity of most careful attention to aseptic details in the open method of treating fractures. The wound is made through contused tissues and effused blood, which may be regarded as passive and devitalized elements constituting a favorable medium for the culture of infective agents. Much importance is attached to the subsequent immobilization of the injured limb by means of suitable splints or plaster of Paris.

MEDICINE.

The Viability of the Bacillus Pestis.

Rosenau (Bulletin 4 of Hygienic Laboratory, Marine Hospital Service, 1901), as a result of an elaborate series of experiments, concludes that the bacillus pestis is not a frail organism, and possesses considerable viability; it remains alive in the cold under 19° C. for a long time, but dies quickly, especially when dried at the body temperature. Moisture favors the life of the bacillus, and it usually dies in a few days when dried, even in the presence of albuminous matter, provided the temperature is above 30° C.; it may remain alive and virulent when dry for months when the tem-

perature is under 19° C. Direct sunlight associated with a temperature over 30° C. kills the organism within a few hours, but the effect is not very penetrating. The virulence of the organism is often lost before its vegetability. It is unlikely that new, dry merchandise or clothing or bedding can harbor the infection for a long time. The bacillus lives for months even, dry, when in an albuminous medium at temperatures below 20° C. It lives for a long time in milk, cheese, and butter, but generally dies quickly on the surface of fruits and prepared foods. Although plague is not a water-borne disease, the organism may live a long time in water. As the bacillus does not live long on paper, first-class mail is not apt to convey the infection. The cooler the climate, the greater the danger of conveying the infection on fomites, and so more extensive disinfection is required than in tropical regions. Surface disinfection is secured by sulphur fumigation and formaldehyde gas in the usual strengths, the former being preferred in places infested with vermin, as formaldehyde gas may fail to kill the higher forms of animal life. The temperature of 70° C., continued for a short time, is invariably fatal to the plague bacillus. The ordinary antiseptics are all efficacious in their usual strengths for non-spore-bearing organisms.

Rectus Abscess in Typhoid Fever.

Bollack and Bruns, of Strasburg (*Deut. Med. Woch.*, Aug. 29, 1901), report the case of a young man who while convalescent from typhoid fever was seized with a coughing spell and developed a painful swelling in the right rectus muscle. As soon as fluctuation was present the abscess was opened and a quantity of yellowish-brown pus evacuated. Cultures and animals were inoculated with the pus and showed the presence of typhoid bacilli in pure culture. Two weeks later a similar swelling made its appearance on the left side, but was completely absorbed without opening it. The authors account for these swellings by assuming that the recti muscles underwent a certain amount of degeneration from the disease and then ruptured. The extravasation of blood thus offered a suitable medium for the growth of the bacilli. The organism was of low virulency, as in other cases reported, which may account for its pus-forming power. It has been claimed that such abscesses usually run a benign course, and the second swelling seems to confirm this. So we may say that where there is an abscess or empyema containing typhoid bacilli in pure culture, conservative and not surgical treatment is indicated, as absorption is likely to take place.

Angina Due to the Spirochaete Bacillus.

H. Salomon (*Deut. Med. Woch.*, No. 34, 1901) says that the spirochæte bacillus is rarely associated with diphtheria, but is often found in syphilis of the throat. Taking the statistics of the city of Frankfort he found that out of 737 cases in which throat cultures had been made, only in three were the spirochæte bacilli found, and in none of these nor in those described in the literature were they found together with the diphtheria bacillus. It is therefore reasonable to assume that the presence of spirochæte may almost exclude diphtheria, which would be something of practical importance. However, in specific disease of the pharynx the organisms occur frequently, and the author describes two cases in detail where its presence was detected before the obstinate membrane disappeared and left the tonsils fissured and the true mucous patches developed. The bacillus was found in one case only of stomatitis, that of a boy of five, with stomatitis aphthous, which revealed almost pure cultures of spirochæte and bacilli fusiformes.

Heart Failure from Insignificant Superficial Ulcerations.

Zuppinger (*Wien. Klin. Woch.*, No. 34, 1901) reports three cases among healthy children between the ages of one and three where small, insignificant ulcerations were followed by death in a few days, with signs of insufficiency of heart action. Autopsies were held on two, showing marked myocarditis and acute nephritis, thus indicating a severe intoxication, the focus of which must have been in the superficial ulcerations. There was an ulceration on the foot in one case, an ulceration in the inguinal region in the second, and an abscess in the glands of the neck in the third. There were no signs of sepsis. The parents were all healthy, and in the two cases with autopsy there were other healthy brothers and sisters. Unfortunately no bacteriological examinations were made.

The Etiology of Erysipelas and its Relation to Pyogenic Infections.

Jordan, of Heidelberg (*Münch. Med. Woch.*, Aug. 27, 1901), claims that there is no difference between true and pseudo-erysipelas, because though we may meet with many varieties clinically they have the same etiological factors. It is simply different degrees of intensity in the same disease, depending solely upon the

varying virulence of the cocci and upon the resistance of the tissue. It was believed at first that the disease was caused by a specific germ, but that has been shown not to be true. Several cases are cited and references given to show that although it is usually a streptococcus infection, staphylococci may also produce the disease. Experimentally, typical erysipelas was produced in a rabbit's ear not only with streptococci, but also with staphylococci, pneumococci, and bacteria coli. Human erysipelas is generally caused by the streptococcus pyogenes, but may also be produced by the staphylococcus aureus, and the question is still an open one, if pneumococci, bacteria coli, and even typhoid bacilli may not produce it.

Auscultatory Percussion.

J. Hofmann (*Münch. Med. Woch.*, No. 35, 1901) describes an apparatus with which percussion can be performed with one hand. It is made up of a hammer and a plexímeter fastened together so that the former resting on a pivot can be raised by a finger, and when released hits the plexímeter with an intensity always equal, as shown on a graduated scale. The plexímeter is made of hard rubber covered with soft rubber. The instrument, being easily operated with one hand, is intended to be used with the phonendoscope. It has been shown by comparison to give just as accurate results as by the more elaborate and difficult method of frictional auscultation. The inventor claims that with it the heart and liver dulness can be easily differentiated, besides determining the limits of the lower lobe of the right lung.

THERAPEUTICS.

The Inhalation of Formic Aldehyde as an Aid in the Open-air Treatment of Pulmonary Tuberculosis.

The results of this adjuvant to the open-air treatment of pulmonary tuberculosis have, according to C. Muthu (*Philadelphia Medical Journal*, Aug. 31, 1901), been very satisfactory, and he urges that the drug be given a fair trial in every sanatorium where the open-air treatment is carried out.

It should be systematically and persistently used. Some one enthusiastic in the treatment should take charge of the apparatus, which requires to be kept clean, and the lamp, etc., need careful supervision every day; any neglect will bring about indifferent vaporization, and the results will be more or less a failure.

Though formaldehyde is non-poisonous, it hastens coagulation of blood. Hence the injection of formalin directly into the veins and tissues of the body complicates the process of treatment and adds a certain amount of risk. Besides, it is not necessary, as the efficacy of the drug can be equally well obtained by simpler methods of some form of inhalation discussed in this paper.

The Therapeutic Value of Alcohol.

L. L. Solomon (*American Medicine,* Sept. 21, 1901) says that alcohol must be in a state of dilution before it can be absorbed. When thus administered respiration is temporarily quickened, later it is slowed. The effect of alcohol on indigestion is similar to bitters. In the mouth it reflexly stimulates the flow of saliva; in moderation and dilution, before or during meals, to those in lowered health or convalescent from acute disease, or to the aged with feeble and impaired digestion, or to the tired and weary, alcohol produces a sense of warmth and comfort in the entire abdomen, which soon diffuses itself over the whole body. It dilates the arterioles in the mucous lining, it irritates the mouths of the secreting glands, soliciting a more abundant secretion, and what is most important, it seems to increase the activity of gastric movements—in itself and alone a material aid to better digestion. Claret, beer, and ale are of low alcoholic strength and preclude the possibility of both immediate and future harmful effects, while they act beneficially in impaired states of digestion.

Alcohol is a conservator of vital power. It adds force, if it does not add tissue, to the body, and within certain limitations may be called a food.

The Treatment of Carcinoma.

Unna has an article in a recent number of the *Monatshefte für Praktische Dermatologie* on this subject, in which he groups together the chemical substances that appear to have a specific influence on carcinoma, and which in chronic cases and in the case of patients who dread operative measures may be recommended. The writer has employed them with a certain good effect, first of all in lupus of the face, and then occasionally in the more rapidly growing cancer originating in seborrheic warts and birthmarks. First of all is the Paquelin cautery, used not for general cauterization, but in a sieve-like manner, burning points with the point of the cautery; the good effect of these appears to proceed from the pro-

ducts given off from the tissues burned. Excellent results were also obtained from resorcin in substance or in the form of plaster, as well as applications made with five-per-cent resorcin spirit. Benzoic acid also, either alone or in combination with resorcin in a one- to five-per-cent alcoholic solution, was efficacious, especially in rodent ulcer. He has also had good effects from an arsenic salicyl. cannabis gauze plaster (acid arsen. ext. cannabis over 5 per cent acid salicyl. 20 to 1 m.) in carcinoma of the skin of various origins. There has been here a similar electric action as in the simple salicyl. cannabis plaster on lupus tissues. The suspected tissue ulcerates quickly; the sound tissue in between remains sound longer.

In general, Professor Unna first of all applies the resorcin gauze plaster. If some nodules remain unaffected they are pricked with the Paquelin cautery, as are also indolent ulcerated surfaces. The plaster is then reapplied strengthened with resorcin powder. If the carcinoma is already deeply ulcerated, the cautery point is at once applied, or the ulceration furthered by the arsenic salicyl. plaster, and the healing up waited for under the use of resorcin plaster or resorcin benzoic acid fumes.

The Treatment of Miscarriage.

Rest in bed, according to P. Horrocks (*Medical Press,* Aug. 21, 1901), and some form of opiate is the best treatment. If in doubt operate and clear out the uterus.

When there is serious hemorrhage, or when the os uteri is so large or expulsive pains so great and frequent that miscarriage is inevitable, allow it to take place, and if need be assist it either by puncturing the membrane or clearing out the uterus digitally under an anesthetic.

When incomplete it is best to clear out the remainder. In some cases it is useful to pack the vagina with gauze. The bleeding is stopped or lessened, uterine contractions are promoted, and later on it is much easier to deliver.

Vaginal injections of hot lotions are recommended by some, but they are not very trustworthy.

Dilators may have to be employed, and ovum forceps and a curette, but it is better to mutilate the fetus than to damage the mother.

Everything must be done aseptically, and if need be the uterine cavity must be swabbed out with tincture of iodine or some other antiseptic.

Sulphur in the Treatment of Dysentery.

A. Richmond (*Lancet,* June 15, 1901) administered twenty grains of sulphur combined with five grains of Dover's powder every four hours to cases of dysentery occurring in South Africa and treated by him at the Deelfontein Hospital. In most cases the treatment proved beneficial, and frequently after other medication had failed to alleviate the condition. It was suggested by the fact that sulphur has been found useful in the local treatment of anthrax, and therefore might be of use in conditions arising from other infections. After the bowel discharges lessen in number and force, the sulphur should be withdrawn, or obstinate constipation will follow, although in some cases he continued to give half a drachm of sulphur alone, at nights, for some time after recovery. Soon after this drug is started it will be noticed that the stools are not so offensive as before; at the same time the ulcers in the intestine begin to heal rapidly and the blood speedily disappears. These effects he believes are due to the strong antiseptic action of the sulphur.

RHINOLOGY AND LARYNGOLOGY.

UNDER THE DIRECTION OF WADSWORTH WARREN, M.D.

Removal of a Foreign Body from the Trachea by Means of an Electromagnet.

Garel, of Lyons (*Internat. Centr. f. Larnygol.,* etc., vol. xvii, No. 7), reported to the Society of Medical Sciences of Lyons an interesting case. A child, twenty months of age, swallowed a nail. After a radiographic examination tracheotomy was performed. Instead of the usual cannula a two-bladed dilator was employed to keep the trachea opened, and a very strong electromagnet was held a short distance from the tracheal opening. The nail sprang toward the magnet at once, and was very easily removed. This observation is doubly interesting because it calls attention to two physical methods brought to the help of medicine, viz., the diagnosis by means of the radiograph, and treatment by means of the electromagnet. This report of Garel's case led to a discussion regarding the application of the electromagnet in general in the extraction of metallic foreign bodies. Aurand explained that in his clinic a very strong electromagnet made by Haab, of Zurich, is used. It is designed chiefly for the extraction of foreign bodies from the eye, and one need only bring it within a few centi-

meters of the eye to effect a removal of the foreign body. Garel stated that the electromagnet of the Clinic Gayet weighed 60 kilogrammes; the one which he had used in his case weighed only 3 kilogrammes. It operated very well with two volts of current, but in this case he had used four volts.

Regarding Some of the Unpleasant Features of Intubation.

F. Sachs (*Internat. Centr. f. Laryngol.*, etc., vol. xvii, No. 7), in an article upon the subject of intubation in general, mentions some of the various mishaps which may occur where there is a lack of skilful technique on the part of the intubator, and the same author also mentions certain occurrences and complications which may arise during intubation no matter how skilful the physician by whose hands the procedure is undertaken. Among these features he would classify: (1) the impossibility of introducing the tube into certain larynges; (2) introduction of the tube into a false passage made through lacerated perilaryngeal tissue; (3) damming of the trachea by false membrane pushed down when the tube is introduced; (4) dysphagia caused by the tube remaining a long time in the larynx; (5) expectoration made difficult on account of the presence of the tube; (6) the possibility of the tube being expelled during the act of coughing; (7) decubitus of the larynx caused by pressure of the tube remaining a long time in the larynx.

NEUROLOGY.

UNDER THE DIRECTION OF CHARLES W. HITCHCOCK, M.D., DETROIT, MICH.,

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Cerebral Cyst with Autopsy.

Geo. W. Jacoby (*Journal of Nervous and Mental Disease*, July, 1901) reports this case which had been well observed during life, yet without diagnosis. The patient was married, aged thirty-one, mother of one child, and first came under observation in November, 1899. She had been well until three months earlier, giving merely a history of "nervousness" and restlessness for a short period after marriage, at twenty-four, and of never having been

able to ride backward in a car without nausea and even vomiting and retching.

In the summer of 1895 she was thought irritable, and this increased until in 1897 there were repeated outbreaks of anger and loss of self-control. She felt tired, had vague pains, and lost in weight. In November, 1897, there was severe dizziness, and she was obliged to go to bed. She was petulant and irritable and first complained of violent headache. Ocular examination was negative. No disorder of gait was noted, and no tremor. Patellar reflexes were equal and lively. Anorexia, gradual and marked emaciation, headache, vomiting, and dizziness marked the further progress of the case, and sudden death occurred January 11, 1898, about nine weeks from the onset.

The right half of the cerebellum was increased in size, and incision into its prominent fluctuating portion revealed a cyst from which about 50 cubic centimeters of clear watery fluid was evacuated. The cyst lay entirely in the quadrangular lobe.

A retrospect of symptoms in view of post-mortem findings presents no just basis for accurate antemortem localization.

Melancholia Followed by Stupor.

An unusual case is that reported by MacCoy (*Journal of Nervous and Mental Disease*, July, 1901), in which melancholia followed a prolonged and free imbibition of alcohol in a male, aged twenty-eight, and who presented the history of untreated syphilis. For three months his history was that of ordinary melancholia. He then became stuporous, refused to get up, or move, or accept food, or take any care of himself whatsoever. This condition continued for three years and eight months, during which he was a trying and uncleanly patient, being fed by nasal tube during the whole period, each meal consisting of a pint of milk, two eggs, sugar, and salt. He then gradually began to manifest signs of returning intelligence, and eventually made a good recovery, vigorous antisyphilitic treatment having been maintained during the whole time.

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ORIGINAL CONTRIBUTIONS.

THE DIAGNOSIS OF STONE IN THE BLADDER, KIDNEY, AND URETER BY THE X-RAY, AND SOME POINTS IN THE TREATMENT OF THE SAME.

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Since the day that Gustave Simon made his first successful nephrectomy for calculous pyelitis, and Henry Morris gave nephrolithotomy to the world, surgeons have looked forward to the day when some accurate diagnostic method might be found whereby calculus could be accurately diagnosed when located in the kidney or ureter.

Every one who has had much experience in this department of surgery freely acknowledges the difficulties encountered in establishing a positive diagnosis from the symptoms, and from chemical examinations of the urine. The diagnosis is difficult because several other renal and ureteral affections give rise to precisely the same symptoms as stone.

If we examine a patient suffering with tubercular nephritis, we shall find him to have many of the symptoms in common with calculous nephritis.

In tuberculosis of the kidney, a mass of tissue undergoing caseous degeneration may clog the ureter temporarily and give rise to precisely the same colicky pains as stone; while pus, blood, and epithelium are common to both. We are also confronted by the same difficulty in the early stages of the various tumors, both malignant and non-malignant, that occur in the kidneys, as they

are accompanied by pain in the renal region, with blood in the urine, etc.

In some cases of movable kidney simulating calculous nephritis there are present pain in the renal region and collapse, with pus and blood in the urine.

Disease occurring in organs outside the kidney may be mistaken for calculous nephritis, such as tumors of the omentum, cancer of the colon, intestinal accumulations, and disease of the appendix.

SKIAGRAPH NO. 1.—Stone in bladder. (Milwaukee X-ray Laboratory.)

The work of Henry Morris, who is the father of nephrolithotomy, and who has incised the kidney more than forty times for stone, when all the clinical symptoms were present, without finding the calculus, beautifully illustrates the necessity of a more accurate diagnostic method.

The successful use of the *x*-ray has done away with the necessity of a diagnostic incision for renal and ureteral calculus with its

risks, and has made the diagnosis possible in the early stages where the operation is attended with a lower mortality than any of the various operations for stone in the bladder.

Only a few years ago the operation was not often undertaken until the kidney was destroyed by extensive inflammation and the patient rendered physically disabled by unrelenting irritation and excruciating pain.

The great value of the *x*-ray is in detecting stone in its incipiency. The same rule should be applied to renal or ureteral cal-

SKIAGRAPH NO. 2.—Two stones in ureter. (W. C. Fuchs, Chicago.)

culus that has long been practiced in vesical calculus; when suspected it should be searched for; when known to exist it should be removed, whether symptoms are present or not. The expectant plan of treatment is unsound in theory and dangerous in practice.

A patient who has a stone in the kidney or ureter is never safe, although all the active symptoms may have subsided. Anuria may set in at any time and terminate fatally, or infection is liable

to take place in the kidney, ending in complete destruction by a pyelonephritis.

Post-mortem examinations have repeatedly shown that many kidneys have been lost by impacted stone in the ureter, while the patient was supposed to have been cured by the so-called solvent treatment for stone, because when the kidney is destroyed all the clinical symptoms of disease will disappear, and the other kidney, if healthy, will carry on the work. In those cases the kidney could

SKIAGRAPH No. 3.—Phosphatic stones in kidney. (W. C. Fuchs, Chicago.)

have been saved by timely *x*-ray diagnosis and subsequent operation.

Forty per cent of all cases of hydronephrosis are due to impacted stone in the ureter. The positive diagnosis, which cannot be made by any other method than the *x*-ray, renders it unnecessary to open the hydronephrotic kidney, but points to the removal of the stone, which is the true cause of the trouble.

The value of the *x*-ray in surgery has attracted the attention of

the profession generally, and many diverse opinions relative to its value are held. In the beginning the disappointment was principally due to faulty technique, and lack of knowledge of the apparatus. Much credit is due to Dr. Charles L. Leonard, of the University of Pennsylvania, for developing a successful technique. He reports having examined 136 cases suspected of having renal or ureteral calculus, and having found nineteen cases of ureteral and seventeen of renal calculus, proving that over fifty per cent were cases of ureteral calculus.

The following are some of the conclusions he has arrived at after his extensive experience, which closely coincides with the experience of other experts in the same field:

1. That both negative and positive diagnosis by the Roentgen method are accurate and valuable.

2. That ureteral calculus is much more common than has been supposed.

3. That it is impossible to arrive at as accurate a diagnosis of calculus by other methods.

4. That this method is comprehensive, and aids operative intervention by localizing all calculi, and excluding calculi from the other kidney.

5. That non-operative treatment without a negative diagnosis by this method is irrational and dangerous in cases that are at all suspicious.

6. That this method is precise, because its results are mechanically produced, but that accuracy in its employment and care in reading the results are necessary to the avoidance of error.

7. That the negative diagnosis does not preclude exploratory nephrotomy, but does make unnecessary the actual incision into the kidney in search for calculi.

The *x*-ray does not possess the same diagnostic value in locating stone in the urinary bladder that it has in locating stone in the kidney or ureter.

All the recent works on surgery recommend the diagnostic incision for stone in the bladder, when the symptoms point strongly to stone, though it cannot be located by present mechanical contrivances.

In the future the diagnostic incision will be erased from the pages of surgery, and the *x*-ray will be substituted.

In my own practice I have had seven cases which I have recommended for examination by the *x*-ray. The first case was referred to me by Dr. Thomas Fitzgibbon. A positive diagnosis of stone in the bladder was made. The diagnosis could undoubtedly have been made by any one of the other methods, but the patient refused to submit to an examination of the bladder. Two cases

contained stone in the kidney, and two of the other four, which gave a negative result, were operated and found to be tuberculosis of the kidney. The other two refused to be operated, and I was unable to confirm the negative diagnosis. Skiagraph No. 1 was taken in the Milwaukee *x*-ray Laboratory; skiagraphs Nos. 2 and 3, showing ureteral and kidney calculus, were taken in the *x*-ray laboratory of W. C. Fuchs, Chicago.

Treatment.—In removing a stone from the ureter two methods are employed—the extraperitoneal and the transperitoneal. The extraperitoneal method is to be preferred on account of the danger of urinary fistula and peritonitis by the transperitoneal.

The ureter can be explored nearly its whole length, by commencing an incision in front of the quadratus muscle, midway between the crest of the ilium and ribs, which is carried in a curvilinear direction toward Poupart's ligament and then forward parallel to the internal ring or farther. The incision is carried down to the peritoneum. The peritoneum is raised and dissected back toward the spine, the colon is drawn to one side, and the ureter can now be inspected in its course across the psoas muscle.

After the stone is removed the opening is closed with sutures, including all the coats but the mucous.

When the stone is found lodged in the lower part of the ureter in the female, behind the vesical orifice, Cabot, Emmet, and Kelly advise emptying the bladder, and after exposing the anterior wall of the vagina a longitudinal incision about one and one-half inches in length is made through it. The enlarged ureter is exposed; a blunt hook is passed under it above and below the stone. A longitudinal incision is now made in the ureter in the direction of the bladder just large enough to push the stone through. The wound is closed with fine catgut, including all the coats but the mucous.

The transperitoneal method may be preferred in some cases, particularly when the stone is located in the ureter at the pelvic brim or lower, and there is no infection present.

A MEDICAL VIEW OF THE AMERICAN INDIANS OF THE NORTHEAST.*

BY A. L. BENEDICT, M.D.,

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Medicine.—Of sickness among the Indians we know comparatively little, except the meager references of the Jesuits and early explorers, in a period of decadence, physical and political, of the Indians. If the statement of the Indians themselves can be depended on, the white men came among them at a time of unprecedented misfortune. The Hurons suffered from famine on account of the inability to cultivate the soil or even hunt, due to the depredations of the Confederated Iroquois. Between 1650 and 1655, two important tribes, the Kah Kwahs of the Niagara frontier and the Eries south of Cattaraugus Creek, were politically exterminated by the Five Nations, most of them indeed being literally exterminated. Various minor Canadian tribes also suffered. By a curious coincidence which made the labors of the Jesuits even more of a martyrdom than was expected, the principal misfortunes were borne by the Christianized tribes. While we may doubt that, as the Indians unanimously testified, whatever their faith, no such general catastrophes had ever before been known among them, we must admit the probability that for two or three generations before the period of European settlement there had been a state of comparative peace and prosperity.

While the Jesuits mention many deaths from starvation, violence, feebleness of age, and neglect, they have left clearly recognizable pictures of but few genuine diseases, including consumption and syphilis, tuberculosis of bones, eruptive fevers, and some form of cholera. Vague allusions to venereal diseases are made. All of these seem to have been unknown to the Indians prior to the advent of civilization among them. Measles has been particularly fatal when introduced among a people not partially immunized by heredity and not able to secure protection from cold. It has almost exterminated whole villages of Indians, in historic times. Smallpox, for similar reasons, has also had a high mortality among the Indians. On account of an epidemic of smallpox, an important Seneca village near Geneva was deserted during the eighteenth century. Whether there were indigenous infectious diseases among the Indians we have no positive knowledge. All traditions apparently alluding to such fevers, of which I have heard, may be explained as referring either

* Read before the Buffalo Academy of Medicine, 1901.

to scurvy, famine, fever not necessarily of specific origin, or to malaria, from which the Iroquois were quite free, on account of the climate.

Prior to the influence of the European example, it does not appear that the northeastern Indians possessed physicians, midwives, or even priests or medicine men, as a distinct class of society. Various superstitious rites, involving mainly the beating of drums or rough handling of the patient, to drive out the evil spirit with which he was supposed to be afflicted, were employed, but these were practiced by sachems or other persons of influence, not by a special class. About the only trace of genuine medical practice must be credited to the old women. Boneset tea, using both the official thoroughwort with the connate leaves and the so-called purple thoroughwort or joepye-weed, various mints, decoctions of cedar and pine, sassafras, and last, but highest in their esteem, the phytolacca, were employed, probably with some crude skill. Champlain mentions that an epidemic of scurvy among his men was cured by an old woman who administered a decoction of cedar. Indeed, he speaks of French physicians in rather contemptuous terms, in contrast. One of the present reservations in this State is due to the insistence of the Senecas upon the retention of a spring from whose surface they skimmed small quantities of petroleum, which they valued highly and which has even been popular as a quack medicine in our own time, under the name of "Seneca oil" and under other terms. This was used internally and externally. Personally, I am willing to vouch for the therapeutic value of petroleum, though preferably in the refined state. Phytolacca is still a remedy of much repute, though it is likely that its reputation, both among civilized and uncivilized peoples, is due largely to the weird and uncanny appearance of the plant. Its juice as well as that of the milkweed was used as a vulnerary, and both probably possess some antiseptic value.

Surgery.—As to surgery, nothing less than the most elaborate technique under profound anesthesia, and with the utmost precautions against bacteria, could have been of much avail for military practice among the Indians. As our soldiers have recently learned in the Philippines, an arrow is a more formidable weapon than a bullet, save for its shorter range. Cortez states that the Mexicans used curved wooden swords beset with sharp flints, and that the arrow-heads were made of bone and stone cut and ground into shape in regular ordnance factories, and stored in state arsenals for use in war. In the northeast, however, chipped—not cut nor ground—flints were used as arrow- and spear-points, and bone was mainly employed for the manufacture of awls and fish-hooks. The principal weapon for hand-to-hand fighting was a

beautifully smoothed stone from some hard glacial boulder, secured at the end of a long stick, either by a thong, or by allowing a split sapling to grow about the stone. Whether these stones had a sharp edge or not there would be little opportunity for the most modern surgery, if the blow were fairly struck. Professor Mills, of the Ohio State University, has kindly furnished illustrations of human and animal bones penetrated by flint arrowheads. The lack of reparative callus indicates that death was immediate. Among Indian skeletons may be found united fractures, usually rather poor results from the present standpoint, evidences of some carious disease causing exostosis, and occasionally ankylosis. Some of these specimens strongly suggest syphilis, even in prehistoric remains. Dr. W. J. McGee, of the Bureau of Ethnology, has described a series of nineteen cases of trephining among the ancient Peruvians from the Muniz collection. The trephining was by means of sawing out a quadrilateral of bone, the instrument being probably a serrated flint. From the depth of the saw marks, their location, and the evidence or lack of evidence of bony repair, we can read the history of the cases quite clearly. In some there must have been a disastrous hemorrhage from a severed sinus; in others the patient lived a few days; in some recovery followed and the patient lived for years, with gradual though never complete closure of the opening. Five or six of these skulls showed evidences of fracture which might allow the supposition that the trephining was undertaken for well marked though vaguely understood cerebral symptoms. The majority of the operations were performed in the absence of traumatic indications, though we might still imagine an epilepsy or brain tumor to have produced symptoms localized by the ancient surgeon in the head. Probably these operations were undertaken, as they have recently been in the Pacific islands, as a superstitious rite. In the museum of the Ohio State University is a parietal bone with a circular perforation, the size of a quarter of a dollar. Whether this means operation or accidental circular fracture, ante- or post-mortem, it is difficult to decide, on account of the decay of the bone. I imagined that I could distinguish slight reparative changes at one part of the opening.

The healing of wounds by third intention, with much suppuration and odor, and occasional deaths from pyemia are alluded to by various writers. I have not found any description of erysipelas or tetanus, the free suppuration perhaps antagonizing the development of specific bacteria.

The tortures of the Indians are interesting from the surgical standpoint. They usually began with the amputation of the terminal phalanx of the thumb, flaps being rudely cut before and

behind and the bone then pulled off with the tendons attached. One of the Jesuits describes the tendon as long enough to reach to the elbow and sometimes to the shoulder. Sometimes, however, the terminal phalanx of the thumb, and subsequently of two or three fingers, was more humanely chopped off. In case of excessive hemorrhage, as occurred with one of the Jesuit martyrs who lived to describe his sufferings in detail, hot ashes were used as a styptic. Sometimes, with a fine sense of humor, pieces of wood were driven into the stump to imitate a new digit. Following this treatment lymphangio-adenitis was frequent, extending up to the shoulder. Indecent mutilations are hinted at by the Jesuits, and sometimes hamstringing was practiced, as well as putting out the eyes. The regular method, however, was to follow the amputation of the phalanges with fire, applying hot ashes to various parts of the body. Apparently from intercourse with the white men, burning at the stake was also occasionally employed, and the Sulpician who accompanied De La Salle's expedition in 1669 mentions being kept awake by a prisoner whom the Senecas were torturing by means of a red-hot gun barrel. Such torture usually lasted six hours or more, according to the care taken to preserve the strength of the victim for finally running the gauntlet, when he was often clubbed to death.

Of obstetric and gynecologic matters among the Indians we have practically no information. Parturition, as among most savage tribes, was usually easy, so that not even the midwife was recognized as a factor in Indian society. Occasional references to death following childbirth, from hemorrhage, sepsis, or sheer weakness, are found. Allusions to abortion are extremely rare, and intentional abortion could scarcely have existed without calling forth denunciation from the Jesuits. While marriages were often dissolved, and adultery is occasionally mentioned as a means of Indian hospitality, most writers agree that the Indian's world did not revolve upon the sexual axis as it commonly does among civilized, Christian nations. The Jesuit Relations contain a minute of a decision that a certain medical brother should not minister professionally to Indian women. Possibly the asceticism of the order explains the very meager references to diseases of women that have come down to us.

Anatomy, etc.—Some years ago I reported to the *New York Medical Journal* the finding of a skeleton on the eastern shore of Canandaigua Lake, which had a supernumerary incisor tooth projecting from the upper jaw above one of the central incisors, while the opposite end was lodged in the anterior palatine canal. In the museum of the Ohio State University is a mound-builder skeleton in which one of the lower wisdom teeth is lodged in the

ramus, near the condyloid process. It is a popular notion that the Indians had an immunity from dental caries, but there is no conspicuous difference in this regard from the teeth of civilized people, except that the coarser nature of the Indian's food rendered his teeth prematurely old by attrition.

There is nothing particularly characteristic about the Indian skeleton. Personally, I have never seen any of unusual stature, and the only accounts regarding gigantism that seem at all authentic are the unverified but repeated and detailed descriptions of many voyagers to Patagonia. Rickety deformities are not often seen. The conformation of Indian skulls is not sufficiently distinctive to warrant a positive opinion as to race in cases of doubt, although the lower jaws are developed beyond the average for the Caucasian race, and the crania are smaller and the bones thicker. I doubt very much whether the stock description of "high cheek bones" applies to the Indian more than to some of the German types. Some archeologists have endeavored to make a type of platycnemic man, who was a tree-climber, who buried along lakes and streams, and who preceded the Indians proper. I have had some personal experience with disinterring such remains, but I must confess that the platycnemism did not strike me as forcibly as it did my non-medical associates; nor did the bones appear more decayed than in the case of interments shown by associated relics to be not much over two hundred years old, and perhaps much less. In only one instance have I encountered bones that possessed any special markings to distinguish them from those of the present day. Near the site of the Seneca capitol, Ganagaru, in Ontario county, I opened a grave containing a child's skeleton and those of two adults. One of the latter, though not of great stature, showed unusually well developed muscular ridges, even the attachments of the facial muscles being plain, while the insertion of the adductor femoris magnus ended in almost a third trochanter. The only bony anomalies that I can recall were a perforate sternum, seen in a prehistoric burial place at Genesee Junction, near Rochester, in 1884, and a sacrum of six vertebræ from a grave in Ontario county.

PERMANGANATE OF POTASSA IN MORPHINE POISONING; WITH REPORT OF CASES.

BY T. H. MARABLE, M.D., CLARKSVILLE, TENN.

Permanganate of potassa is prepared by heating together ten parts of binoxide of manganese and twelve parts of potassa. It occurs in slender, prismatic crystals, of a dark purple color, inodor-

ous, of a sweetish, disagreeable taste, and very soluble in water, with which they form a solution varying from a purplish-black to a beautiful reddish lilac, according to the strength.

We are indebted to Dr. William Moor, of New York, for showing the efficacy of this salt as an antidote to morphine, his experiments having aroused general interest in the profession. He points out that one grain of morphine is decomposed by one grain of permanganate of potassa.

Case 1.—I was called January 1, 1896, to see Miss E——, who had had a falling-out with her best friend, and concluded to end matters by the morphine route. She purchased twenty cents' worth of the drug, filled and took four No. 2 capsules at 2 P.M. I was sent for, and reached her about 4 P.M. I found her in bed, with all her clothes on, and her friends unable to arouse her. On examination I found the pupils contracted very small, and did not respond to light; respiration 8 to one minute; circulation 50, and thready. As soon as I could load my syringe with apomorphine, one-tenth grain, I gave it in the arm, and immediately followed this with four grains of permanganate of potassa in the back over the scapula, hypodermically. In ten minutes, emesis not having begun, I repeated the apomorphine injection, free emesis taking place about five minutes later, and continuing at intervals for three hours. As soon as vomiting came on I had two friends take her from the bed, and, one on either side, keep her in motion, over the floor, for two hours. I repeated the injection of potassa, now using the arm for the site of its introduction. Finding this produced more pain than in the back over the scapula, I gave twenty-minim injections every fifteen minutes to a half-hour up to 6.30 P.M. At 7 P.M. she said if I would not give her another injection she would promise me to stay awake until ten o'clock—in fact, she was not at all sleepy. I discharged her at 7 P.M. The attendants told me she did not sleep before 1 A.M. She made an uneventful recovery, except for the sores on her arm, which she had to nurse for a week or ten days.

Case 2.—In October, 1900, Q. G——, a single man, thirty-five years old, who was in the habit of going on periodic sprees, while on one of these took twenty-one ¼-grain morphine tablets at 7 P.M. I was called, and reached him at 8.30 P.M. He at that time seemed to be very drunk from whiskey. The pupils were not much contracted; face red and suffused. On shaking him vigorously he muttered incoherently, and lapsed into a profound comatose condition before I could prepare my syringe with apomorphine, one-tenth grain, for injection, which I gave as soon as possible, and repeated in ten minutes, without emesis. I gave him frequent injections of ten-per-cent solution permanganate

of potassa without any perceptible change for the better; in fact, there was never a movement of the limbs after I first entered and shook him vigorously, arousing him enough to make him mutter. This case continued growing worse until death ended the scene. This man had drunk whiskey very freely, having taken nine glassfuls of whiskey in twenty or thirty minutes, at about 5 P.M., just before leaving the saloon for home, and was quite drunk before taking the above mentioned number of drinks. I am certain whiskey contributed quite largely to his demise, for on a previous occasion he had taken fourteen tablets of morphine, each one-fourth grain, on retiring, hoping to produce death, as he afterwards admitted, but waked up all right next morning, to his surprise.

Case 3.—On November 7, 1901, A. D——, aged twenty-eight, single, while in a drunken debauch took seven grains of morphine in a glassful of beer. I was called, and saw him one hour and a half after he had taken the morphine. He had walked a mile from the saloon to his home after taking the drug. He was lying on the bed with his clothes on; pupils contracted; respiration 12 per minute; circulation 60 per minute. He could be aroused, but lapsed back into stupor when left to himself. I gave him two hypodermic injections of one-tenth grain each apomorphine fifteen minutes apart, when he vomited freely. Having no permanganate of potassa, I had to procure same from drug store, which came about a half-hour later, making two hours since taking morphine. At this time I could not arouse him; I had him held up in bed, and poured into him about five grains in solution, which was vomited almost immediately. I then began injecting into his back over scapula two grains permanganate of potassa, giving four grains, and at expiration of thirty minutes I could arouse him enough to have two men pull him out of bed and drag him over the floor, repeating the injections in back every ten minutes for six injections, and kept him walking and awake for three hours, when I considered him out of danger and discharged him. He made an uneventful recovery, except for a very sore back, which kept him in bed for four or five days.

Case 4.—Miss T——, while quite drunk from beer, had dissolved seven grains of morphine in a glassful of beer, and drank it at 7 P.M. I was called by telephone and notified. I instructed them to give her salt and mustard water until I could get there, it being then 8.30 P.M. I arrived a half-hour later, and found they had not been able to make her vomit. She was in bed with her clothes on, and could be partially aroused. I immediately gave her one-tenth grain apomorphine hypodermically, and repeated it in ten minutes, which produced copious vomiting. I then

began hypodermic injections of permanganate of potassa, and tried to make her walk, which she was unable to do. I continued the injections, using arm and leg for sites of injection. By one o'clock she was sufficiently from under morphine to allow her to sleep, which she did for thirty minutes, and wakened very much alarmed at her condition, calling for her friends, and saying she was going to die. Condition: Respiration 18 per minute; circulation 130, and tumultuous; complained of coldness of entire body, which was noticeable on examination. Although respiration was 18 per minute, she was constantly wanting to sit up, declaring she could not breathe. The facial expression was anxious; pupils somewhat dilated, and responded to light. Gave strychnine, digitalin, and nitroglycerin hypodermically. This condition lasted for several hours, gradually growing less, until 6 A.M., when she had thoroughly reacted, and made an uninterrupted recovery, except for soreness at sites of hypodermic punctures, those on the thigh giving most pain. In fact, she could not walk for a week.

I noticed in these cases that injections in the back over the scapula did not seem as effective as in the arm or thigh. I also noticed there was less pain and soreness following the injections in back over scapula. The especial point to which I want to call attention is the use of permanganate of potassa hypodermically in these cases. H. C. Wood's Therapeutics, tenth edition, says: "The claim that it is capable of neutralizing the poison in the blood is, on the face of it, extremely improbable, as it does not seem possible that the permanganate can be absorbed as permanganate. Moreover, in a number of experiments made upon the lower animals with morphine, I have found that the hypodermic injection of the permanganate does no good whatever in morphine poisoning."

Graham Chambers, of Toronto, September, 1894, in experiments with potassium permanganate as an antidote to morphine, arrived at the following conclusions: (1) Potassium permanganate in dilute solution, not stronger than one grain to one ounce, may be given by the stomach without danger; (2) subcutaneously it is a poison; (3) grain for grain, it completely decomposes morphine.

We find many reports from competent practitioners all over the world detailing the brilliant, and even marvelous, results from the administration of this most useful drug in all forms of opium poisoning. It seems to act best when given hypodermically, from one-half to two grains at each injection.

In the *Medical World* for December, 1894, S. Stevens, M.D., of Keeler, Mich., reports the following case: "October 11, at

8 P.M., Mrs. K——, aged twenty-six, by mistake took morphine, gr. viij. I was called at 8.30 P.M., and found the patient asleep; pupils contracted; pulse 50; and we were unable to awaken her. I gave one-eighth grain muriate of apomorphine hypodermically, then four grains of permanganate of potassium hypodermically; repeated the muriate apomorphine, followed by partial emesis; gave nitroglycerin, 1-100 grain, hypodermically, and repeated the injection of permanganate of potassium. By 10.30 P.M. the patient was awakened, so that I was able to leave. The patient made a good recovery, and was about her house the 12th inst."

New York Lancet, July, 1900 (John A. Barker, M.D., Saltsburg, Pa.): "During last July the author was summoned to see an infant four days old that had been given one-fourth grain of morphine sulphate by mistake for a minute dose of calomel, soda, and ipecac, the latter having been prescribed for frequent discharges of the bowels since birth. The infant was puny, and resembled one in the advanced stage of infantile atrophy. It was seen about one hour and a half after the poison had been administered, and after the excitable stage had passed. It was in a stupor, if not a comatose condition; skin was markedly cyanotic, covered with a copious perspiration, and cold to the touch; pupils were unduly dilated and insensible to light; breathing stertorous, and respiratory excursions numbered, as nearly as could be made out, five per minute; pulse so thready and feeble that it could not be counted, and the anterior fontanelle greatly depressed; muscles completely relaxed. It was given two grains of permanganate, hypodermically, heat applied, and artificial respiration performed. A few minutes after giving the potassium salt it was seized with several violent convulsions, which occurred in rapid succession, each lasting about one minute. 'At this juncture the nurse pronounced it 'irretrievably doomed,' and it was the author's opinion also. It was decided that another dose of permanganate could result in no harm, inasmuch as no phenomena of life were perceptible, and it was accordingly given. An enema of warm water was given also, and after practicing Schultz's method of respiration for fully five minutes, breathing was noticeable, and continued to increase in frequency, as did also the cardiac pulsations. It was now left undisturbed, with the exception of application of heat, and drop doses of diluted brandy on the tongue. After remaining in this condition for half an hour the coma became more profound and the breathing more stertorous, and another dose of two grains of permanganate was given. Incredible as it may seem, the coma diminished, skin gradually changed its color, heart grew fuller and stronger, and, in fact, all symptoms evinced improvement. It went on toward an

uninterrupted and complete recovery, and is to-day a well-nourished, well-developed, healthy child. The question that naturally arises is, Would the case have recovered more rapidly had the entire amount of the permanganate been given the first dose (six grains in all)?"

In the *Medical World* for March, 1894, Dr. E. R. Grigg, house physician in hospital, Pittsburg, Pa., in answer to Dr. Robert P. Finley, of Altoona, Pa., reports the following case: "The clipping you sent is perfectly correct. The patient's respirations were four per minute, pulse extremely weak, face cyanosed, and every reflex absent; pupils, of course, extremely small and inactive. In short, the man was dead. In four hours he was perfectly conscious, complaining only of sleepiness. The permanganate was injected hypodermically, and worked beautifully; the principal and primary effect seemed to be an increase in depth and number of respirations. His pupils were contracted and inactive for nearly twenty-four hours after he regained consciousness. From the above history and description you will see that the permanganate is a physiological antidote. The permanganate solution used was very hurriedly made, so that the exact strength of the solution is not known, but I estimated it to be about one-fourth of a saturated solution. The second injection was given about forty minutes after the first. The third and fourth were given one-half hour apart, and the third one-half hour after the second. The last three were at fifteen-minute intervals—seven injections in all."

Eli Browning, of Tipton, Ia. (*Medical World,* Philadelphia, December, 1895), states the case of a young man who was brought to his office about thirty minutes after having taken ten grains of morphine. The toxic symptoms being manifest, Browning gave 2½ grains of potassium permanganate internally, to antidote what of the poison might still be in the stomach, and gave a like amount hypodermically. This was repeated at intervals of fifteen or twenty minutes till the patient rallied from the morphine. No other remedy was used except one-tenth grain of nitroglycerin to stimulate the heart's action. In two hours the patient was considered safe, and in three hours was left with friends positively out of danger.

Norton Downs, of Germantown, Pa. (*Therapeutic Gazette,* Detroit, Mich., July, 1895), relates a striking case. He first administered some apomorphine, but although the action of the drug was most satisfactory, only a small portion of the poison swallowed was vomited. The case assuming a grave aspect, the author hurriedly injected one-half grain into the thigh, and repeated the dose a moment later. In less than fifteen minutes

from the time the last hypodermic injection was given, from being in a condition of almost absolute coma, with pin-point pupils, a slow pulse, and infrequent respiration, the patient had entirely returned to consciousness. The pupils were dilated, the pulse about 100, and in a perfectly natural manner he was talking of the sensations through which he had passed. The length of time elapsed from the taking of the laudanum, which Downs estimates at about three drachms, to the time the patient was given the permanganate of potassium, of which he received one grain, was about two and a half hours.

The cures from morphine poisoning with permanganate of potassa by the mouth are too numerous to mention in this paper. I wanted to emphasize the hypodermic use of permanganate of potassa in these poor unfortunates. The inference drawn by H. C. Wood (Therapeutics, 1898) as to the hypodermic use of morphine, is not well taken: (1) because the susceptibility of lower animals to the action of morphine renders experiments on them very unsatisfactory in arriving at any results referable to man; (2) the dose of permanganate of potassium necessary to counteract the enormous lethal dose of morphine in the lower animals must, of itself, prove fatal; (3) the action of permanganate of potassium is physiological: (*a*) because there is no proof that it acts chemically except when brought in direct contact with the stomach; (*b*) because there is evidence that the exhibition of permanganate of potassium by the stomach, or hypodermically, increases the number of respirations; (*c*) because there is evidence that the exhibition of permanganate of potassium by the stomach, or hypodermically, has an appreciable effect on the circulatory system, as seen by the dilatation of the vessels of the ears, and by direct effect on the blood.

THE SURGICAL ASPECTS OF THE CASE OF PRESIDENT GARFIELD.

BY T. HOWE ADAMS, PHILADELPHIA, PA.

On July 2, 1881, James A. Garfield, then president of the United States, was shot while in the Baltimore and Potomac railway station at Washington by Charles J. Guiteau. The motive of the assassin was never fully determined. It was discovered subsequently, however, that he was one of that vast swarm of applicants for position that fill Washington at all times, demanding or begging favors of government officials. He had written to the President asking for the Paris consulship; his application had been referred with thousands of others to the proper department.

Guiteau undoubtedly was consumed with an overweening desire to become notorious, in which ambition he was not restrained by the possession of a strong moral nature, or by any great degree of mental power. With the cunning of his low intellect, he reasoned that if he should remove the President, naturally all eyes would be attracted to him, and his name would be on every tongue. There would be thrown around his name the romance of a Wilkes Booth, while he would be protected from punishment by the opposing branch of the President's party out of gratitude for placing them in power by the change.

President Garfield was on his way to a reunion of his class at Williams College, accompanied by Mr. Blaine, Secretary of State, and Colonel Rockwell. He was standing in the ladies' waiting-room, at twenty minutes past nine on the morning of July 2. The assassin approached him from the rear, coming within a distance of six feet, firing two shots from a powerful revolver of 42 caliber. One shot went through the President's coat-sleeve, but the other struck him in the back, and he fell to the ground. He was carried at once to the second story of the station building, and placed upon a mattress, several physicians who happened to be in the vicinity administering stimulants to him. At the suggestion of Mr. Robert Lincoln, Secretary of War, Dr. D. Willard Bliss was summoned.

Dr. Bliss found that the point of entrance of the ball, which was oval and sharply marked, was on the right side, in the tenth intercostal space, four inches from the median line of the spine, and on a line with the eleventh rib. A slight discharge of blood was oozing from this orifice, and had stained the clothing. Dr. Bliss passed a Nélaton probe through the tenth intercostal space, downward and forward for a distance of three and one-half inches from the surface of the body, to what appeared to be a cavity, but he was unable to detect any foreign substance beyond the rib to indicate the presence of fragments of bone or the missile. Dr. Bliss then passed the little finger of his left hand to its full length into the wound, which showed the character and extent of the fracture of the rib; but he was able only to reach a point on a line with the inner surface of the rib, where his finger came in contact with what appeared to be lacerated tissue, or comparatively firm coagula of blood, probably the latter.

After withdrawing his finger Dr. Bliss made an exploration with a long, flexible, silver probe, which he suitably curved before introducing, and gently passed it downward and forward and downward and backward, with a view of determining the course of the ball, if it had been deflected by contact with the rib; but meeting with resistance from soft parts in all directions Dr. Bliss

desisted, being inclined to the belief that the ball had entered the liver, which, if true, would not warrant further exploration in that direction. By this time a large number of physicians had gathered in the room, and Dr. Bliss gave them a hurried account of his examinations, and expressed the opinion that no further explorations should be made during the stage of collapse, and that stimulants by the stomach should not be given at that time, as the President was suffering from constant nausea, and in his condition absorption could not take place. The President repeatedly requested that he be taken to the White House, and after a further consultation and a full understanding of the manner and detail of his transfer, his speedy removal was agreed upon.

Temporary dressings were applied to the wound, and the President was placed upon a stretcher, carried down-stairs, and placed in an ambulance in waiting. The vehicle was driven with great care to the White House, the President not experiencing any discomfort. He was taken to his room, which was known as the southwest or family room. On the arrival of the President at the White House a careful examination was made of his condition. His pulse continued feeble, frequent, and exceedingly compressible; the respiration was slow and sighing; his extremities and the surface of his body were cold; he had been vomiting freely, and his entire body was bathed in a profuse perspiration; his voice was husky; he constantly complained of severe pains in the limbs. He was placed on his right side, so as to make the wound dependent, to facilitate drainage and keep the viscera in contact with the injured walls, looking for the possible adhesion of the injured parts to the peritoneum. Water was given in small quantities, often repeated. This was necessitated by the extreme thirst from which the patient suffered. A hypodermic injection of one-eighth grain of morphine and one-eightieth grain of atropine was administered, to control the pain in the extremities, and as a more permanent stimulant to assist reaction.

This was at ten o'clock on the morning of July 2. There was but little change in the condition of the patient, either in temperature, respiration, or pulse, until eleven o'clock, when it was determined to repeat the morphine in a dose of one-sixth grain. This had the effect of modifying the pain and discomfort, and the respiration became more frequent and easy. The pulse responded, however, but feebly to the stimulants. Nausea and vomiting continued at intervals of thirty minutes during the entire day and until seven in the evening, when it became less frequent, being simply a regurgitation of fluids from the stomach. This condition returned at longer intervals until six o'clock the following morning. At 5.30 P.M., in accordance with a previous under-

standing with the physicians, the clothing was cut from the body in such a way as to prevent any motion or agitation, and to permit a more successful application of dry heat by warm flannels to the entire body, which had been imperfectly accomplished before. Examination showed a well-defined field of dulness over the region of the wound, thought to be due to hemorrhage from the substance of the liver along the supposed track of the ball, extending seven and a half inches anteroposteriorly and five and a half inches laterally.

At the evening consultation of July 2 the opinion was expressed that internal hemorrhage had taken place and that the distinguished patient would not survive the night. During the next two days, however, he rallied, and it was decided to call in Dr. Frank H. Hamilton of New York, and Dr. D. Hayes Agnew of Philadelphia. The consultants examined the case separately and decided that the possible course of the ball was in one of three directions: (1) either into the liver; (2) backward at a right angle so as to involve the spinal column; or (3) downward behind the peritoneum into the pelvic cavity. The consultants did not attempt to force their probing with too great vigor. The condition revealed at the autopsy showed the wisdom of this policy; probing sufficient to have gone any distance into the wound would have done fatal harm, while it could not have revealed the location of the ball. The consultants did not believe the ball had entered the liver, but beyond this they did not express a positive conviction.

The propriety of making extensive incisions and dissections so as to explore the fractured ribs and remove as much as might be necessary to reveal the true course of the ball was considered. But by this time the President was in a very favorable condition: his pain, hyperesthesia, and vomiting had ceased; his temperature, pulse, and respiration were nearly normal; and he was in excellent shape. The consultants did not see the President again for two weeks, but were apprised daily of his condition. On July 23 the distinguished patient had a chill, and a pus sac had been detected beneath the twelfth rib. The President was operated on, and a free dissection was made down to the fractured rib. He improved greatly after this until August 6, when another channel of pus was detected burrowing its way behind the peritoneum into the right iliac fascia. Again the President was operated on, and this tract thoroughly opened and cleaned out. He did well until August 14, when nausea, vomiting, and general prostration gradually appeared. Paratitis on the right side appeared, followed by facial paralysis.

Consequently, in early September the patient was removed to

Elberon, New Jersey, and he began to improve rapidly; but on September 17 again a severe chill appeared, and he rapidly sank, dying at 10 P.M. on the night of September 19, 1881.

The report of the autopsy is most interesting; it is as follows:

Behind the right kidney the dilated track of the bullet was dissected into. It was found that from the point at which it had fractured the right eleventh rib, the missile had turned to the left, going almost at right angles obliquely forward through the body of the first lumbar vertebra, and lodging in the adipose connective tissue below the pancreas, two inches to the left of the spinal column behind the peritoneum, where it had become completely encysted. The spinal cord was uninjured.

Beyond the lumbar vertebra the track was filled with coagulated blood which had worked its way to the left, bursting finally through the peritoneum into the abdominal cavity. This mass came from the hemorrhage of one of the mesenteric arteries, the rent being nearly a half-inch long in the splenic artery.

The surgeons at the autopsy agreed that the different suppurating surfaces, the fractured spongy tissue of the vertebra, and the extensive hemorrhage beyond that point, furnished a sufficient explanation of the septic conditions which existed through life.

There was a great deal of criticism following the fatal termination of the case, but the clearest cut account was a discussion in the *North American Review* by Dr. John Ashhurst, Jr., Dr. J. Marion Sims, Dr. John T. Hodgen, and Dr. Wm. A. Hammond.

1. Was the wound necessarily a mortal one?

The only one of the four writers to take the ground that the wound in the vertebra was not necessarily mortal was Dr. Hammond. He rested his proposition entirely on a few quotations from surgical literature, but their irrelevancy was shown clearly at the time. The cases he cited had nothing in common with President Garfield's case.

On the other hand, the other three authorities agreed that the wound was necessarily a fatal one. Dr. Sims wrote: "Our whole medical literature does not contain a single well authenticated case of recovery from such a wound."

2. Did the position of the President and the assassin at the time of shooting offer any clue as to the track of the bullet?

It was overlooked by many critics that this point was carefully considered at all times, but the fact that the bullet on entering the body struck the eleventh rib and was deflected at almost a right angle from its original course immediately on entering the body, together with its zigzag course later, showed that no data was to be procured from this source.

3. Could the ball have been detected and located by the use of probes?

The track of the bullet showed the wisdom of the physicians in their refusal to persist in probing. The ball after fracturing the eleventh rib was deflected downward, comminuting the twelfth rib; it then passed through the psoas magnus muscle, whose fibers run longitudinally. These fibers undoubtedly closed after the passage of the ball, eliminating all possibility of following its course, so that the track of the bullet disappeared within a short distance of the skin. If the probing had been persisted in, the aorta, the thoracic duct, or the vena cava, which lay directly in its course, would have been in danger of rupture. It would have been impossible to have reached the opening through the body of the vertebra, and even if it had been reached the ball would have lain undiscovered on the other side of the spine.

4. Were there any symptoms which pointed to the injury in the spinal column?

Many lay readers, confused by the similarity of the words "spinal cord" and "spinal column," imagined that the spinal cord had been injured. It was not, and there was no positive signs of the injury to the vertebra beyond a few tingling sensations and the hyperesthesia on the right side for a time. The possibility of this accident had been considered, but subsequently laid aside.

5. Should an exploratory operation have been performed to search for the bullet and to reveal the condition of the injured parts?

The absence of any data on which to work, as can be seen from the answers to the previous questions, shows that there was no clue as to the direction in which such an exploration should have been made. Nowadays, with the *x*-ray machine, the bullet could have been located, and possibly from that point the surgeons could have worked backward, but it is doubtful if they could have repaired the serious damage which had been done by the bullet. The injury to the vertebra was the most serious point in the President's condition; it was the principal source of the septicemia.

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

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EDITORIAL ARTICLES.

THE RATIONAL METHOD OF REDUCING WEIGHT.

There is as yet little unanimity of opinion as to the best treatment for reducing weight. The methods in vogue may be actually reduced to five, those of Banting, Ebstein, Oertel-Schweninger, Stadelmann, and Debove. The principle of Banting's method is that of administering meat in large quantities, and only permitting a small quantity of carbohydrate. Besides the gastric catarrh which this method is so apt to induce, it has been found that when one administers 700 grammes of meat per diem, one actually administers 40 or more grammes of fat, the fat of meat being so intimately associated with the fiber. This point of administering fat in meat has been noted by Ebstein, who administered a diet selected to give a moderate quantity of albumen, a small quantity of fat, and very little carbohydrate. Thus for example he administers 100 to 110 grammes of albumen, 80 to 90 grammes of fat, and 40 to 50 grammes of carbohydrate. By Ebstein's method the patient gets practically a food equivalent to 1300 to 1400 calories, which is not enough detraction from the quantity customarily taken to insure a decreasing weight, though his method is founded on deficient alimentation.

Others, as Oertel and Schweninger, have endeavored to reduce obesity by diminution of fluids. Oertel had a very pleasing experience of this method, but principally among the beer-drinkers of Monaco. People who drink much water do not of necessity grow fat, as diabetics who consume from 20 to 40 liters per diem prove. It is, however, considered by the advocates of this treatment that the organism, not finding liquids for the formation of its juices, undertakes the decomposition of the fats.

The withdrawal of fluids is not believed in by Stadelmann, who thinks that by limiting the ingesta to soup, water, and mineral water, obesity can be treated without subjecting the patient to

privation. He practices a reducing method based on scientific data. The patient takes daily 100 grammes of albumen equal to 400 calories, 50 grammes of fat equal to 460 calories, and 160 grammes of carbohydrate equal to 640 calories. The calorigenetic value of the food is gradually reduced. A man of 70 kilogrammes, working hard, needs 3000 calories; if he works little he needs 2400, or 50 calories per kilogramme. By his method the alimentation is reduced until about 1000 calories is given. The alimentary substances are given in varied form, and massage, electricity, and thyroids exhibited. The administration of thyroids, which when given in connection with full diet is said to cause sugar to appear in the urine, can be safely administered without causing the result when the patient is on a low diet.

The method of Debove must also be recorded. It consists in placing the patient entirely on milk. The method is an effective one, but so full of privation to the patient that it hardly comes within range of practical adoption.

EDITORIAL NOTES.

The Army Canteen.

The unanimity displayed by medical authorities in supporting the army canteen is something on which to reflect. The feeling cannot be avoided that legislation against the canteen was due to emotional arguments advanced by certain societies, whose intentions were worthy, but whose experience of actual condition was far from complete. Major Louis Seaman has done magnificent service in informing the public of the true state of affairs. It is to be hoped that wiser and more dispassionate judgments will prevail in future legislation.

The Appendix not a Rudiment.

The opinion has recently been enunciated by a German writer that the appendix is not, as it has been supposed to be, a vestige of some important organ that has served its purpose, but that it is a lymphoid organ analogous to the tonsil. The fact is, as comparative anatomy shows, as we ascend in the animal scale, this organ tends to differentiate from the cæcum and to accumulate lymphatic elements. The appendix therefore possesses for man a significance the reverse of that commonly conceded to it. Instead of being a token of atavistic degeneration, it is a sign of nobility and of animal aristocracy.

ITEMS AND NOTES.

Rinderpest is said to be virulent in Pretoria at the present time.

Surgeon-General Sternberg, U. S. A., has returned from Manila.

The mortality in India due to the plague is again on the increase.

An epidemic of anthrax among sheep in the Canadian Northwest is reported.

Helena, Montana, will soon have a new hospital erected at a cost of $60,000.

Professor Czerny, of Heidelberg, is making a prolonged visit in the United States.

The government will expend 200,000 rubles for the erection of a sanatorium at Port Arthur.

Scarlet fever is reported to be epidemic in La Rue, Ohio, and the schools have been closed.

Paris has formed an antispitting league, the object of which is to prevent expectoration in public places.

Statistics now show that of the soldiers staying in the South African war only six to eight per cent have died.

In the fifteen years from 1885 to 1900 the number of physicians in Germany has increased from 15,761 to 27,374.

The number of medical students registered this year at Ann Arbor, Mich., shows a large decrease as compared with 1900.

Smallpox has broken out in Ottawa, and is regarded as so serious that a compulsory vaccination by-law is being enforced in the schools.

Nearly 1200 physicians of Berlin have applied for permission to take the free postgraduate courses which are now being held in that city.

A dinner was given by the pupils, friends, and admirers of Rudolf Virchow on October 12, it being the occasion of his eightieth birthday.

A sanitary league has been organized by the women of Norway to aid in the war against consumptives by instructing the women of the poor.

THE efforts made this summer to eradicate mosquitoes in New Orleans have been partially successful. The preparations are being made for a vigorous campaign the coming year.

THE secretary-general of the Thirteenth International Medical Congress announces that the volumes of transactions, both of the general sessions and of the section work, have been printed and distributed.

ON September 23 the Common Council of Baltimore passed an ordinance appropriating $15,000 to be used by the health commissioner to defray the expenses incident to the extermination of mosquitoes.

DR. D. K. PEARSONS, of Chicago, has given $100,000 to the Colorado College, one-half the amount to be applied toward the erection of a hall of science, to which another anonymous donor has contributed $100,000.

IT has been reported that Dr. P. M. Rixey, who during the last few months has become prominent as the physician of President and Mrs. McKinley, will be appointed surgeon-general of the navy, at the expiration of Surgeon-General Van Reypen's term of service.

THE Board of Health of Syracuse, N. Y., has decided to have a monthly inspection of all children in attendance at the public schools this winter. The eyesight of the children will be tested, and each child will be examined as to its physical condition, and especially as to the presence or absence of contagious diseases of the eyes and skin.

THE Hawaiian Board of Health at Honolulu has adopted, according to the *Medical Record*, a new regulation which prevents relatives and friends of lepers at Molokai from coming into personal contact with the unfortunates. A stockade has been built, and visiting relatives can talk to lepers only through two fences, which are four feet apart. The lepers at first objected to this arrangement and threatened to break down the stockade, but were finally pacified.

THE municipality of Berlin has resolved that the new hospital in course of erection in the See-strasse is to bear the name of Rudolf Virchow, and will be called "Virchow-Krankenhaus." The hospital will be by far the largest, finest, and best arranged of all the municipal hospitals of Berlin. There will be 1700 beds for patients, and the medical staff, nurses, household servants, and the members of the nurse-training institute, will bring the number of inmates up to 2000.

NEW PUBLICATIONS.

SUGGESTION AND OSTEOPATHY.

The value of this book can be estimated by the author's treatment for cholera morbus. He says: "Place the patient on a stool, the operator standing behind. The operator now places his knee on the spine, just below the last rib, grasping the patient's shoulders, and draws him gently but firmly backward as far as possible. Let all motions be slow, allowing the patient time to relax the muscles. Fifty per cent of all cases will be cured instantly by this one move." The rest is like unto it.

Suggestion and Osteopathy. Cleveland, Ohio: The Progressive Osteopathic and Suggestive Therapeutic Publishing Co., 1901.

PROGRESSIVE MEDICINE.

The new volume of this interesting serial contains notable articles on general medicine. The dermatological phenomena of syphilis are carefully studied by W. S. Gottheil, and an important section is devoted to modern progress in diseases of the nervous system. The obstetrical section also comes in for an important contribution. The work maintains its high character and admirably fulfils its purpose in keeping the practitioner fully abreast of the times.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Assisted by H. R. M. Landis, M.D. Volume III, September, 1901. Philadelphia and New York: Lea Brothers & Co., 1901.

GOLDEN RULES FOR DISEASES OF CHILDREN.

The latest addition to the Golden Rules Series is quite as valuable as the previous ones. The book, which is of a convenient size to carry in the vest pocket, is filled with valuable information. All the diseases that children are heir to have been carefully epitomized, with hints in regard to their treatment. The book cannot but meet with favor at the hands of the busy practitioner.

Golden Rules for Diseases of Children. By George Carpenter, M.D. (Lond.), M.R.C.P., etc. Golden Rules Series No. XI. Bristol: John Wright & Co. London: Simpkin, Marshall, Hamilton, Kent & Co., Limited.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Suturing Punctured Wound of the Heart.

I. Watten reports a case of a man, twenty-three years old, who came to the hospital three and a half hours after having received a stab wound in the fourth right intercostal space near the sternum. The temporary dressings were removed, revealing two stitches holding the edges of the superficial wound together, and a strip of gauze in its upper angle. During respiration air rushed in and out of the thoracic cavity with a gurgle, while coughing caused blood to spurt forth. A finger was introduced and an opening found in the pericardium, through which a wound of the heart muscle could be felt. After the examination the respiration and heart's action were accelerated and more irregular. Notwithstanding the circumstances he decided to operate, and to go in from the right side without resection of the sternum. He had to cut the fourth, third, and second ribs close to the sternum. The pericardial wound could be seen and was lengthened so that the cardiac wound came into view; the latter was about an inch long, and was gaping and closing with each heart-beat. The action of the heart made it almost impossible to introduce sutures, until with two fingers of the left hand the operator held the organ against the sternum. Three silk sutures were taken. Five weeks after the operation the patient was discharged cured. He returned to his trade, that of weaving; two weeks later his pulse was regular, and he could do hard manual labor. The author states he could find only twelve cases where the operation had been performed, of which five were successful.

Wounds of the Venous Sinuses of the Brain.

Wharton (*Annals of Surgery*, July, 1901) gives the results of a study of seventy cases of wounds of the great venous sinuses of the brain, collected from various sources. Of these cases, five came under this surgeon's personal observation, and he was thus led to investigate this class of injuries with special reference to their frequency and mortality, and to the determination of the method of treatment which had been employed, with the most satisfactory results. The results of this study are summed up in the following conclusions: (1) Wounds of the venous sinuses of the

brain should be classed as dangerous injuries, being followed by high mortality from external or intracranial hemorrhage or septic infection; (2) they are specially liable to infection resulting from septic thrombus and pyemia, therefore the greatest care should be taken to render them aseptic and to maintain them in that condition; (3) the most satisfactory and generally available method of treatment consists in controlling the bleeding by aseptic gauze packing; (4) ligation of the venous sinuses presents definite dangers in itself, is only available in certain wounds where a free exposure of the injured sinus is possible, and cannot be employed with advantage in ordinary accidental wounds of the sinuses; (5) the application of a lateral ligature to a wound of a sinus is less difficult and dangerous than ligation of the sinus, but is applicable only to small wounds; (6) suture of sinus wounds is a valuable procedure in a certain class of cases, namely, small wounds which can be freely exposed; (7) forceps pressure is also a ready method of controlling hemorrhage from wounds of the sinuses, but possesses no distinct advantage over some of the other methods, and its employment is not free from danger.

Astonishing Herniotomies.

E. Mensel (*Münch. Med. Woch.*, No. 36, 1901) reports two very remarkable cases. The first was a man seventy-two years of age, with an irreducible rupture which in five days became incarcerated. After opening the sac and replacing most of the intestine, a loop remained, compressed by a tumor a little larger than a silver dollar, belonging to the mesentery. The tumor, which subsequent examination showed to be carcinomatous, had grown from the mesentery onto the intestine without lessening the lumen. A portion of the small intestine was resected, together with part of the mesentery. The patient recovered in three weeks.

The second case, a four-year-old boy, had had a hernia for three years, which was held in place by a truss. He was brought for a radical operation, but upon opening the sac there was found a mass of matted intestines covered with tubercles. Other loops brought out for examination were likewise covered, so that owing to the general tubercular peritonitis the operator ceased. A fecal fistula formed, and several weeks afterward it was decided to try and close it, when to the astonishment of all present all trace of the tubercles had disappeared; so the mass of intestines was resected and an end-to-end anastomosis made, and the wound closed. Entire recovery followed, but to make a stronger closure of the hernial portal a small secondary operation may be done.

A Case of Delayed Apoplexy Following Trauma.

O. Bruns (*Deut. Med. Woch.*, Sept. 12, 1901) reports a case of a man forty-one years old, who was struck on the head while at work. He did not become unconscious, but went on with his work, complaining to his fellow workmen of some headache. Four days afterward he was seized with a spell of sneezing, after which vertigo, vomiting, and complete unconsciousness set in. He died the next day. The autopsy revealed a marked cerebral hemorrhage in the right hemisphere due to the rupture of a small aneurism near the corpus striatum. The author says that death was either due to the rupture of the vessel simply without any relationship to the blow, or that the trauma produced the acute aneurism and the sneezing caused its rupture. He believes the latter to be the cause which makes the sixth reported in the literature.

The Treatment of Intussusception.

B. Pitts (*Pediatrics*, Sept. 15, 1901) says that inflation or injection should be tried only if the case is seen within a very few hours and if the symptoms are not very acute. Inflation may be a useful preliminary by limiting the field of operation. When resection is necessary this may be followed by reunion of the bowel in chronic cases. In acute cases a wide resection may be carried out at once; an operation for the restoration of the continuity of the bowel at a later period.

MEDICINE.

Relation of Urine to Disease.

M. D. Hoge (*Virginia Medical Semi-Monthly*, August, 1901) brings together a collection of diagnostic points showing the effects of different diseases on the urine, with hints to treatment:

Acute Renal Hyperemia.—Blood; albumin (10 per cent by bulk); small hyaline casts; quantity increased; specific gravity reduced; reaction acid. Treatment: Produce a skin reaction—warm baths, pilocarpine, nitroglycerin, large quantity of pure water.

Passive Renal Hyperemia.—Quantity diminished; specific gravity 1025 to 1030; color dark; reaction acid; urates increased,

uric acid crystals; mucus increased; albumin present, but small in amount; small hyaline casts; a few blood-corpuscles. Treatment: Increase the arterial tension, digitalis.

Acute Bright's Disease.—Quantity diminished (at first); if quantity increases, either recovery or chronic nephritis follows; specific gravity increased (1025 to 1030); color dark-red (blood); reaction acid; urea diminished; albumin considerable; hematuria; renal epithelium; dark granular casts; hyaline casts; epithelial casts. Treatment: Non-nitrogenous food, milk, digitalis, lithia waters, small doses of calomel, diaphoretics, hot bottles.

Chronic Parenchymatous Nephritis.—Quantity diminished; specific gravity normal or diminished; color lemon or dark-brown; cloudy by transmitted light; albumin in large quantity; urea diminished; chlorides diminished; fatty degenerated kidney epithelium; dark granular casts; hyaline casts; fatty casts. Treatment: Digitalis, large quantities of water, small repeated doses of calomel, warm baths, jaborandi, nitroglycerin, non-nitrogenous food, milk, iron, strychnine.

Chronic Interstitial Nephritis.—Quantity increased or normal; color pale and transparent; reaction acid; specific gravity below normal; albumin, very small quantity; very few hyaline casts; granular casts; crystals of uric acid and calcium oxalate; urea diminished; phosphates diminished. Treatment: Symptomatic, bichloride of mercury in minute doses.

Amyloid Kidney.—Quantity increased; color pale; specific gravity low (1012); reaction acid; albumin considerable; hyaline casts; waxy casts. Treatment: That of causative disease.

Tuberculosis of the Kidney.—Quantity increased; pale milky color; specific gravity lowered; reaction alkaline; pus suspended; hematuria; bacillus tuberculosis. Treatment: Symptomatic, improving the general condition.

Cancer of the Kidney.—Hematuria; albumin in small quantity; quantity increased; pus; acetone; kidney débris. Treatment: Palliative; extirpation.

Renal Gravel.—Hematuria; quantity normal; color dark-red; reaction acid; pus, urates, and oxalates; small concretions; epithelium. Treatment: Restrict meat diet, no alcoholic or acid drinks, bodily exercise, vegetable diet, milk, large quantities of water, phosphate of soda, carbonate of lithium, anodynes.

Uremia.—Urea diminished (200 to 50 grains); uric acid diminished; quantity diminished; specific gravity diminished; albumin; casts. Treatment: Diuretics, hydragogue cathartics, diaphoretics.

Diabetes Insipidus.—Quantity enormously increased (ten to fifty pints); specific gravity diminished; no sugar; no albumin; color pale and clear; reaction faintly acid; urea increased; phosphates increased; indican. Treatment: Tonics; valerian.

Diabetes Mellitus.—Color light yellowish; specific gravity much increased (1030 to 1045); reaction acid; quantity much increased; sugar one to eight per cent (half a pound per day); urea increased; acetone and diacetone; albumin (occasionally). Treatment: Strict diet, opium, Fowler's solution, cod-liver oil, Silurian spring of Waukesha.

Pyelonephritis ("Surgical Kidney").—Color dirty yellow, pale and cloudy; foul odor; specific gravity diminished (1008 to 1016); quantity diminished; reaction acid; rapidly undergoes ammoniacal fermentation; urea diminished; albumin present; pus; blood, epithelium; casts of bacteria. Treatment: Astringents, tannin, alum, lead, antiseptics, salol, chlorate of potash, milk in large quantities.

Pyelitis Calculosa.—Quantity increased; color pale straw; specific gravity diminished; reaction acid; pus; albumin; spindle-shaped epithelium; odor very offensive. Treatment: As above for surgical kidney.

Cystitis.—Pus; blood; albumin; color light; reaction alkaline (chronic); specific gravity diminished; triple phosphates; bacteria; bladder epithelium. Treatment: Bodily rest, light diet, large quantities of fluids, chlorate of potash, salol, gelsemium, turpentine, warm applications, washing out of the bladder, opium suppositories.

Febrile Diseases.—Quantity diminished; color dark; specific gravity increased; urate deposits; hyaline casts; albumin; acetone and diacetic acid; urea increased; hemoglobin; grape sugar; phosphates diminished.

Anemia.—Quantity diminished; color pale; specific gravity diminished; reaction neutral or alkaline; albumin (occasionally); hyaline casts; urea increased; kreatinin.

Leukemia.—Reaction acid; uric acid increased; albumin; phosphates increased.

Chlorosis.—Reaction alkaline; kreatinin.

Scurvy.—Reaction acid; peptone (constant).

Gout.—Uric acid diminished; phosphates diminished; albumin; hyaline casts; oxalate of lime crystals.

Cirrhosis of the Liver.—Quantity diminished; urates (large quantity); urobilin.

The Principles of Treatment of Tuberculous Laryngitis.

Pathology and clinical experience show, according to St. Clair Thomson (*Medical Press and Circular,* Sept. 25, 1901), that in the majority of cases the focus of infection is near or in the crico-arytenoid joint. Many cases only present themselves at a stage when the possibility of effecting a cure by local measures is quite untenable. The principle of *primum non nocere* should be constantly kept before us, as many measures which have been tried in this affection have only distressed the patient and hastened the disease. In the light of present knowledge and therapeutic resources, the most rational principle is to attempt to make an early diagnosis of the disease while in an incipient stage. Any persistent or suspicious laryngeal catarrh should be treated seriously on even a presumptive diagnosis. Once diagnosed, the patient should be treated on the principles laid down in the modern method of sanatorium treatment. Symptomatic treatment should be directed to any irritative, catarrhal, or obstructive condition of the air-passages. In addition, silence should be enjoined, the disuse of the voice being proportionate to the degree in which the focus of infiltration approaches or interferes with the arytenoid joint. In cases where the situation or extent of disease does not warrant an expectation of complete arrest of the process, treatment should be symptomatic, and in many such cases the sanatorium treatment is uncalled for.

The Treatment of Metritis.

John Campbell (*Medical Press and Circular,* Sept. 25, 1901) says that in the treatment of this affection there can be no question about the utility of immobilization of the uterus by an abdominal belt, so far as that is possible; about the avoidance of fatigue and strain; about the use of laxatives and dieting, or of glycerin or water enemata, or of glycerin suppositories, to aid evacuation of the bowels; or about the advantages of general tonics and of the natural medicinal waters, the ferruginous for the anemic cases, the alkaline for dyspeptic patients, and the indifferent and sodium chloride waters for the neurotic. Douches are undoubtedly useful, but require to be used more energetically than they usually are. The advantages of the tampon have been much overestimated, and to be of any use a daily application is necessary. Local bleeding in some cases is beneficial, especially where the cervix is chiefly involved. Intra-uterine medication is of the utmost importance, and includes (1) the application of antiseptics, and (2) the application of caustics to the uterine cavity. Curetting is, of all the methods of treating metritis, admittedly the best.

Treatment of Neuritis by Currents of High Frequency.

Denoyes and Lagriffoul (*Arch. d'Elect. Med.*, August, 1901) record two cases of neuritis—the one of saturnine, the other of influenzal origin—in which great amelioration followed the employment of d'Arsonval's high-frequency currents. A combination of local and general treatment was adopted; a full account of the state of the patients before and after its use is given. The authors describe the various troubles of sensation and movement as rapidly clearing up; when the patients left the hospital functional restoration was virtually complete. Moreover, the examination of the reflexes and of the electrical reactions sufficed to show that the symptomatic improvement denoted the anatomical clearing up of the affections.

On Time-saving Methods in the Treatment of Phthisis.

Wm. Ewart (*Medical Press and Circular*, Sept. 25, 1901) says that while the fresh-air treatment of phthisis is of the utmost importance, this method can be shortened greatly by the administration of protargol hypodermically. He says that the ultimate effect of the administration of this drug is to lower the temperature, at the same time giving a remarkable feeling of improvement. The patient's strength increases, there is a rapid diminution in the cough and in the expectoration, and there is a more or less rapid change from the dense sputum of phthisis to simple catarrhal sputum and ultimately to hyaline mucus. The injection consists of 40 cubic centimeters of saline solution containing 1½ to 2½ grains protargol, and this is preceded and followed by an injection (through the same needle) of a few cubic centimeters of pure saline solution to obviate leakage of irritating fluid into the tissues, which is apt to lead to considerable pain and swelling. From twelve to fifteen injections generally suffice. It is best to administer them at intervals of one day, but in some cases they may be given daily.

Acute Amygdalitis: Its Treatment by the Local Application of Tincture of Iodine.

S. Floersheim (*New York Medical Journal*, Oct. 5, 1901) recommends the use of tincture of iodine with local applications in this affection. He says that it is one of the most powerful antiphlogistics known in inflammations of the throat; that its action is very rapid, relief being often experienced within five minutes. It has relieved the intense inflammation completely when all other

throat remedies have absolutely failed to benefit. The writer used it in sixty-eight cases of acute amygdalitis, and its use was followed by marked benefit in every case. The method of application is simply to saturate a long camel's-hair brush with the tincture of iodine, and rapidly brush over the inflamed area—*i. e.*, tonsils, pharynx, uvula, fauces. Should the patient experience intense burning after two minutes, a gargle of plain warm water suffices to relieve the condition. If the patient does not experience the burning, a second application should be made three or four minutes after the first.

An Extraordinary Case of Quinine Susceptibility.

At the recent meeting of the American Dermatological Association, H. W. Stelwagen (*Journal of Cutaneous and Genito-Urinary Diseases*, October, 1901) reported a case of this nature. The individual, a young man, had a severe attack of cold some years ago, when a physician prescribed quinine in the ordinary dose. The first dose the patient took was followed by a severe constitutional disturbance, simulating typhoid fever, and by an erythematous eruption, and finally desquamation. Some time after that he took some patent medicine which contained one-eighth of a grain of quinine to the dose. He became the victim of another attack just exactly like the first one. The same thing took place every time he took quinine or any of the cinchona derivatives. The patient was made painfully aware of his susceptibility to quinine on different occasions, the most unusual of which was a typical attack following the application of a hair tonic which contained quinine. It was not due to any neurotic disturbance, because the eruption appeared no matter whether the patient was conscious of taking quinine or not. Some of his medical friends administered quinine unknown to him, but it was invariably followed by a typical attack.

The Treatment of Traumatic Tetanus.

Dehler (*Münch. Med. Woch.*, No. 36, 1901) reports a case of a forty-eight-year-old woman who wounded the back of her left foot with a pitchfork, there being little hemorrhage or pain. A scab formed over the wound and no more attention was paid to it. Twelve days later she noticed she had difficulty in chewing and swallowing, and on the fourteenth day sought relief at the clinic. Trismus and facies sardonica were present. The wound was opened and a small piece of straw removed; the edges of the wound were excised, thoroughly washed with a 1:1000 bichloride solu-

tion, and cauterized with trichloracetic acid. Tizzoni's antitoxin was injected daily and chloral given. The antitoxin was kept up for thirteen days, during which time 19 grammes were administered. She received chloral for eighteen days. On the nineteenth day after treatment was begun she had fully recovered.

RHINOLOGY AND LARYNGOLOGY.

UNDER THE DIRECTION OF WADSWORTH WARREN, M.D.

The Radical Treatment of Nasal Polypi.

Before the London Laryngological Society (*Internat. Centralblatt für Laryngol.*, etc., vol. xvii, No. 9) Lambert Lack reported two operative cases and showed specimens, which were convincing evidence of the nature of the process in the nose which gives origin to the growth of polyps. In the first case, a young married woman, there had been a discharge from the nose of a troublesome character for three or four months. Without difficulty the polyps were removed, and under narcosis numerous small polypi and loose pieces of bone were removed with a Meyer ring knife. Altogether quite a large cavity was rimmed out in the ethmoid. Recovery was rapid and complete, and after eighteen months there was no recurrence.

The second case, also a woman, gave a history of the presence of polyps for many years, and frequent removals in the ordinary way had always been followed by a recurrence in a short time. In this case Mr. Lack removed almost the entire ethmoid excepting the cribriform and paper plates, doing this operation also with the ring knife under complete narcosis.

The preparations which he exhibited showed distinctly that there had been a rarefying osteitis involving almost the entire body of the ethmoid. The periosteum especially in its deeper layers was greatly thickened. The surface of the bone showed small pits that were filled with osteoclasts. The bone cells were larger and more numerous than usual. At many points small fragments of bone were isolated.

OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILMAN, M.D.,

Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

Early Recognition of Tobacco and Alcohol Amblyopia.

St. Bernheimer (*Die Ophthalmologische Klinik*, Sept. 5, 1901) at the twenty-ninth annual meeting of the Ophthalmological

Society, Heidelberg, reported twenty cases of tobacco and alcohol amblyopia. Nearly all of the patients presented no marked symptoms of toxic amblyopia, consulting the doctor on account of presbyopia or conjunctivitis. A careful ophthalmoscopic examination revealed, in most of the cases, not the characteristic pallor of the outer half of the optic disk, but a marked delicate redness in this region, which is a sure and the first sign of a slight inflammation of the tissue in this part of the nerve-head.

St. Bernheimer has been unable to find in the literature any prominent mention of this very important early symptom, when the disease is in its early stages, and can be easily cured. This ophthalmoscopic sign also confirms the theory of a primary inflammation of the optic nerve in tobacco and alcohol amblyopia.

Blindness Resulting from Sodium Salicylate.

Snell (*Archives of Ophthalmology,* September, 1901), at the July meeting of the Ophthalmological Society of the United Kingdom, related the case of a girl who became blind after the administration of large doses of sodium salicylate, in all from 140 to 160 grains, to relieve an attack of articular rheumatism. She awoke from her sleep and said everything in front of her was dark. She was unable to tell light from dark. Mr. Snell saw her the next day and found her totally blind, but the fundus appeared normal. On the following day he again saw her, when she was dying from heart disease, the result of rheumatism, and again nothing abnormal was detected in the eye. The vision never returned, and the patient died the same evening. Mr. Snell said he thought there could be no doubt that the drug caused the blindness. The number of recorded cases was very limited.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,

Lecturer on Dermatology, Detroit College of Medicine.

Effect of Application of Light to the Skin.

At the last annual meeting of the British Medical Association, in the Section on Dermatology (reported in the *British Medical Journal,* Sept. 28, 1901), Malcolm Morris, F.R.C.S. Edin., described the effect of the application of light (Finsen's method) as follows:

"The application of the light is followed by an inflammatory

reaction consisting in hyperemia and redness, followed by the formation of a bleb, which breaks and dries in about a week into a thick yellow crust. Healing is complete in ten days or a fortnight. In places where the tissues are loose, for instance near the eye, there is often great swelling of the neighboring parts. The intensity of the reaction varies in proportion to the intensity of the light, and also according to the structural peculiarities of the patient's skin, and especially according to the local condition produced by the disease. In persons with a thin skin the reaction is greater, while it is less painful in coarse, thick skins. The reaction comes on from five or six to twenty-four hours after the application of the light. It is usually slight at the beginning of the treatment, and sometimes becomes greater as it is continued. Even after prolonged treatment it still shows a tendency to increase rather than diminish. There is, indeed, seldom anything that can be called pain at the time light is applied, though sometimes a feeling of heat is experienced in the part, and pressure over a bony prominence may cause pain. But the after-smarting is often considerable, and the inflammatory phenomena constituting the reaction are also more or less painful. There is seldom any constitutional disturbance. In the case of deeply ulcerated surfaces there is no blistering or crusting; a much larger number of consecutive applications can, therefore, be made without inconvenience to an ulcer than to an area of intact skin. Reaction is manifested by redness and soreness, which are sometimes accompanied by some swelling of the surrounding parts and tenderness on pressure. These effects are seen about the fourth or fifth day, and if the applications are kept up the skin around the ulcer becomes inflamed."

According to the writer's experience, the remedial effect of the light rays is directly proportionate to the intensity of the reaction; the production of a considerable reaction should, therefore, always be aimed at.

Percentage of Success in the Treatment of Diseases of the Skin by Finsen's Light Method.

Dr. Malcolm Morris (*British Medical Journal*, Sept. 28, 1901) gives the following as the result of his experience:

Up to July, 1901, the total number of cases treated was 60. In 36 of these the disease was lupus vulgaris; in 6 lupus erythematosus; in 14 rodent ulcer; in 2 alopecia areata; in 1 keloid; and in 1 epithelioma. Of the cases of lupus 8 may be claimed as instances of cure; in 3 the treatment was abandoned on account of failure of health; while in 6 the result was unsuccessful or unsatisfactory. The remainder are still under treatment. Of the rodent ulcer

cases 7 were cured; in 2 the unsatisfactory state of the patient's health made it impossible to go on with the treatment; and 2 are still under treatment.

Of the cases of lupus erythematosus, in 2 the result was satisfactory, in 3 the treatment had to be discontinued, and 1 is still under treatment. Of the cases of keloid and epithelioma nothing definite can yet be said.

In the successful lupus cases the number of sittings varied from 8 to more than 370. They were mostly favorable cases in which the disease was superficial and of small extent.

Lichen Planus as a Vesicular or Bullous Disease.

At the annual meeting of the American Dermatological Association (*Journal of Cutaneous and Genito-Urinary Diseases,* October, 1901) Dr. C. W. Allen, of New York, in his consideration of this subject, does not claim that lichen planus exists exclusively with moist lesions nor that the latter predominate, but he is convinced that lichen planus bullosus can at times be developed at will. Prompt and vigorous treatment in the beginning stage of the disease will prevent the eruption from becoming generalized or from spreading locally. A case of generalized lichen planus in a young lady was reported. At no time in the course of treatment was arsenic given, but the lesions were vigorously curetted as soon as they formed, or they were transformed into either blood or water blisters, which disappeared just as rapidly as did the curetted lesions. The author also mentions a variety of lichen planus in which pemphigoid bullæ appear. He says that this is seen only in poorly nourished patients.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

The Vomiting of Pregnancy.

C. Cristeanu (*Medical Press,* Sept. 18, 1901) attributes a close correlation between the incoercible vomiting of pregnancy and herpetism, and an arthritic diathesis, and describes at great length the brusque apparition of symptoms and manifestations which are under the influence of the same cause—herpetism. Gestation is one of these causes; it modifies profoundly the organism of the woman, and by that awakens the arthritic or herpetic diathesis, diminishing on the one hand the disassimilation of the products of combustion, retarding their elimination, with the consequence that

toxic substances are accumulated in the organism. The necessity for the organism to eliminate at any price these products, to compensate these toxic substances by the gastric and buccal mucous membranes, leads as a natural consequence to irritation of these membranes, which react in their turn and produce the nausea and the vomiting, especially in the morning; sialorrhea, especially in the night and in the morning; benign manifestations sometimes, and at others incoercible, probably caused by the local elimination of the products of incomplete combustion. It may be asked why all pregnant women do not suffer from vomiting. First, because those of a herpetic or arthritic predisposition are especially predisposed to it; and secondly, the same question might be asked under other conditions: why, for instance, all the patients who have a high temperature have not delirium. A predisposition is necessary, and this predisposition reacts according to each individual, and according to conditions which differ totally for each individual. Some present manifestations of the skin, others of varicose veins, others of hemorrhoids, others of vomiting, ptyalism, hysteria, mania, etc. These manifestations can vary according to conditions, but the cause is always the same—that is to say, the herpetism of Lancereaux.

Cristeanu describes briefly two cases which confirm his opinions: A woman, aged twenty-eight, entered the hospital for incoercible vomiting. She was two months pregnant. The vomiting and ptyalism were very abundant. Traces of urea were found in the saliva. The following treatment was instituted: Mixture of chloroform, water, cocaine, and twenty drops of tincture of belladonna; gargles with Vichy water; warm baths; friction of the skin with aromatized alcohol; and one drachm of carbonate of lithia in a mixture given internally each day. Seven days afterward the vomiting ceased, and the ptyalism also. After ten days she left the hospital. A year subsequently she returned, two months pregnant, with the same symptoms; but being in a very prostrate state she was unable to follow the medical treatment. Curettage was practiced, and two days afterward the vomiting ceased, while the urine, which had come down to 500 grammes, went up to 1500. On the tenth day the vomiting returned with the same intensity. The urine fell to 600 grammes and the ptyalism reappeared. The woman refused to remain longer in the hospital. It was evident that the vomiting was produced by another cause than that of gestation, as it should have completely ceased after gestation; and that cause was arthritism or herpetism.

A third and fourth case entirely similar to the preceding were treated medically as indicated, and fifteen days after the patients left the hospital completely cured.

THE MEDICAL AGE

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ORIGINAL CONTRIBUTIONS.

MEDICAL REGISTRATION IN MICHGAN.

BY B. D. HARISON, M.D.,

Secretary Michigan State Board of Registration in Medicine, Sault Ste. Marie, Mich.

PERIOD OF FREE TRADE IN MEDICINE PREVIOUS TO 1883.

Previous to 1883 there was no legislative restriction in the practice of medicine in Michigan. All the law required to legally practice medicine, and therefore have the legal standing of a physician and surgeon, was that the person so practicing should hold himself out to the public as a physician and surgeon. The law did not require a doctor to have any medical training or experience in the profession in which he practiced or in which he attempted to practice. It was quite legal under the law for any one to use the prefix "Doctor" to his name, or to affix the letters "M.D." or the title "physician and surgeon" to his or her name. If so inclined a street fakir, a chimney-sweep, a scavenger, or a tramp could legally hang out his shingle without any medical qualifications attained in the usual method, and thereby was entitled to sign death certificates, give expert testimony in court, commit helpless people to lunatic asylums, answer calls in the middle of the night, with or without reward, or to do the hundred and one things that a regularly educated physician and surgeon is privileged to do to-day under the present medical law. In other words, we had "free trade" in medicine in this State.

During the legislative session of 1883, Dr. George Howell, representing Lenawee District in the House of Representatives, introduced a bill which is now known as the "Howell Medical Act," entitled "A Bill to Promote Public Health." This bill was passed by both houses of the legislature, and arrived at the hands

of the Governor for his signature in a dilapidated and mutilated condition, so much so that the author, Dr. Howell, almost failed to recognize his creation after it had received the signature of the Governor. There were two sections to this bill, the first section providing that every person in this State who was actually engaged in the practice of medicine at the time the bill went into effect, September 7, 1883, and who had been continuously and immediately preceding the passage of the act for five years in the practice of medicine in this State, or who held himself or herself out as a practitioner of medicine without regard to any qualifications whatever, should be entitled to register upon making an affidavit in accordance with above quoted facts, within three months after September 7, 1883, the date upon which the act went into effect.

Section two provided that a graduate of a legally authorized medical college in this State, or within any one of the United States, or in any other country, could register upon making an affidavit covering the facts in his case before the clerk of the county in which he was or intended practicing. Under this law the county clerk, being simply a ministerial officer and having no judicial or semi-judicial powers under the act, was forced to accept and record every affidavit presented to him, no matter whether the person so registered had any qualifications or not.

So little was known under the old act as to what constituted the qualifications for registration, even by attorneys, and the enforcement of such act by prosecuting attorneys was so entirely neglected, that it was possible to register, practice medicine, sign death certificates, and give expert testimony in court upon a certificate of almost any kind, whether dental, pharmaceutical, or even on registration as an undergraduate or student. A man in Bay City offered as evidence of his legal registration under the old act a dental diploma upon which he had been practicing medicine for several years. When it was pointed out to him that the diploma was dental, not medical, he was dazed for a time and said: "It is very funny; I paid for the other kind and supposed I had it."

PERIOD OF LEGALIZED "FREE TRADE" IN MEDICINE, 1883-1889.

As could have been expected under such a lax system of registration and the impracticable judicial supervision of the same, "all sorts and conditions" of the genus medicus registered under the old law, some with legal qualifications, others with fancied legal qualifications, a great many knowingly with no legal qualifications whatever. This method of registration was a direct bid, and was also to a large degree responsible for the origin and growth of the numerous fake and diploma-selling institutions in neighboring States, particularly in Illinois, where they obtained charters to

conduct medical colleges, so-called, and issued diplomas to persons who never spent a day in the study of medicine, and these diplomas were simply sold to the highest bidder.

Michigan during the past ten years has been a favorite "dumping ground" for those persons who had obtained these fraudulent diplomas, and then registered under the Howell Act of 1883 as graduates of "legally authorized medical colleges;" and previous to the passage of the Medical Act of 1899 it was generally conceded by lawyers and others interested, including the medical profession, that these possessors of infamous and bogus qualifications could so legally register under the provisions of the Howell Act, from the fact that the fake colleges from whom they had obtained their diplomas were "legally authorized" in the States in which they were incorporated, notwithstanding the fact that these institutions as quickly as it became known of the fraudulent work they were doing were closed up by the attorney-general of the State; but no sooner had the attorney-general closed up one institution than another, or rather the same institution under another name and another charter, issued the same class of bogus diplomas.

The notorious Armstrong, of "Independent College" fame, who is at present serving time in State's prison for issuing fraudulent diplomas, and who was brought to time largely with the aid of the Michigan State Board of Registration, obtained from the Illinois legislature nine different charters. Under the law it took some two years' legal proceedings to close up one of these institutions, therefore he figured that he had eighteen years in which to issue bogus diplomas, at an annual income of some twenty-five thousand dollars, and Michigan was his best field from a business point of view.

THE MEDICAL ACT OF 1899.

At the legislative session of 1899 I had the honor of introducing the present medical act, as chairman of the Legislative Committee of the Michigan State Medical Society, with the active assistance of the chairmen of the homeopathic (Dr. Nottingham) and eclectic (Dr. William Bell) State associations, through Representative Chandler of Chippewa District. Of course the people and legislature had been previously educated to the necessity of medical legislation by such energetic and self-sacrificing workers as Shurly, Frothingham, and others. This act passed through both houses practically unchanged, and was signed by Governor Pingree and became law September 23, 1899. This act provided for a registration board of ten members, appointed by the Governor and confirmed by the Senate, and gave the board power to administer the act through its executive officer, the secretary.

Under this bill provision was made to reregister all those practitioners in this State who were legally registered under the provisions of the Howell Act, and it also provided for future registrations from new men coming into the State, or students graduating from the different colleges, either by an examination before the board or through the "approved college" section, which provides that a graduate of a college recognized and listed by the board can obtain a certificate of registration or license by presenting his diploma for verification, and record.

At the first meeting of the board in October, 1899, one of the most important policies in connection with the reregistration clause was adopted. Under the Howell Act, as I have already noted, a graduate of a "legally authorized medical college," either in this State, the United States, or in any other country, was allowed to register. The title of this act was "A Bill to Promote Public Health." The board recorded at its first meeting its opinion that the legislature of 1883 in using the words "legally authorized medical college" meant also "reputable college," or, in other words, the sentence should read, "a graduate of a legally authorized and *reputable* medical college;" for if the legislature of 1883 did not mean that a legally authorized medical college should be "reputable," then the title of the act, "An Act to Promote Public Health," would have no force or meaning, for the people could not in any sense be protected or the public health improved or conserved if "fake" and disreputable colleges should come under the meaning, as expressed in the bill, "legally authorized medical college." The secretary, therefore, was directed to refuse to reregister all graduates of "fake" and disreputable colleges who had registered under this section; the board holding that affiants had simply gone through the *form* of registration without the *facts* required by law to make the form of registration legal.

It is well known that it is the duty and privilege of the Supreme Court to interpret the legislative intent in reviewing the acts of the legislature. One of the so-called graduates of the Independent Medical College, of Chicago, the most notorious of all "fake" institutions in this country, who had gone through the *form* of registration under the old act, applied to the Supreme Court for a mandamus against the board in order to compel it to register him. This case was decided by the Supreme Court a year ago last April in favor of the board's interpretation of the law; consequently by this act of the board hundreds of disreputable and unqualified practitioners, who had gone through the form of registration under the old act, without the fact, were denied certificates of registration, and have either left the State, or, if still practicing in this State, are doing so contrary to the law, and it

can only be a question of a very short time before they are compelled to give up their illegitimate calling.

Other boards throughout the United States, in reregistering practitioners under new acts, in some instances as a matter of course granted reregistration to all applicants, without regard to the qualifications under which they registered under a previous act, consequently the work of the Michigan board has been greatly in excess of any other board recently established within the United States.

The *Journal of the American Medical Association* in a recent editorial states that although the Michigan act is very little, if any, superior to some of the other acts in other States, still the Michigan board has accomplished much more beneficial work in the cause of medical legislation. It is not always the act that does the good work, but the men behind the act who are responsible for its results. No greater compliment could be paid any board than was thus paid to the Michigan board.

Dr. A. W. Alvord, of Battle Creek, a member of the board, and chairman of its Committee on Standard and Colleges, who attended the recent meeting of the Federation of State Boards, at St. Paul, in reporting to the board states in part as follows: "It would have been a great pleasure to me and to the members of the board also if they could have been present at the meeting of the Federation of State Medical Boards at St. Paul recently. Much that was of general interest was brought forward by different gentlemen for discussion, notably the standards for medical education and the requisite preparation for the same, reciprocity between State boards and what was needed first, a higher personnel in the membership of the different boards, the best methods of the administration of medical laws, as well as the similarity of such laws. You would have been particularly pleased at the kind remarks made at the meeting relative to the personnel of this board; the few mistakes we had made; the high order of work required by colleges before we could recognize them, and then only after personal examination into the quality, kind, and number of laboratories; the quality as well as the number of their teaching force, and in bringing to the front the well known but buried fact that a college on paper and a college *de facto* were two entirely different things. The Michigan board was congratulated also on not having taken any backward steps as some other boards have done, which must sooner or later be retraced on the upward march of improvement."

The legislature has vested in the Board of Registration in Medicine authority under section three, subdivision five, of the act, to investigate the standard of colleges, not only in this State but throughout the United States; and in listing colleges for recog-

nition the board not only takes into account the course of lectures given, the amount of laboratory and practical work done, and the number of years' attendance required, but also takes into consideration the quality of the teaching staff, the adaptability of the buildings and equipment of the laboratories, and the honesty and good faith of the professorate and college authorities. Since the advent of the board the standard of colleges in this State has been very materially raised, and will continue to go upward.

The work connected with the reregistration clause of the act has been very great, and the board has labored under some serious disadvantages, from the fact that unlike Illinois and some other States it had no organization previous to the act becoming law. There was no office or trained office force to anticipate the receipt of thousands of applications for registration, sent, in a great many instances, several days or weeks previous to the first meeting of the board at Lansing, October 10, 1899. All the many necessary and complicated details and blanks for carrying out the provisions of the act had naturally to follow the appointment of the board and its executive officer.

EXPENSES OF THE BOARD.

The inquiries and absolute exactness of records to meet possible legal inquiries in hundreds of rejections is a labor that cannot be appreciated by any one. In dozens of cases it was necessary to give weeks of time to single cases. This extensive and laborious work of the Michigan board, which nobody can appreciate but those persons who have had experience in like matters, has been most economically done. The total expenses during the first fifteen months was $7867.77, as against receipts of $10,055.20. The disbursements of the Indiana board during eight months of its reregistration period was $7503, or nearly double. The total disbursements of the Wisconsin board during the first twelve months was $7909, and the total disbursements of the Ohio board covering eight months was $16,302, or about four times as much as the Michigan board. All the above boards have a membership of seven or less members, as against ten members of the Michigan board, and some of these boards reregistered all those who had gone through the *form* of registration without reference to the *facts* behind the *form*, and therefore the expense and work in connection with their reregistration should have been small compared with that of the Michigan board. It will be noted, therefore, that the expenses of the Michigan board were very much less than any of the above boards quoted, and this same thing can be said if the expenses of the Michigan board are compared with the

expenses of any of the boards at present in existence in the United States.

I might also call attention to another item of expense, that of office labor. The average amount of office labor per month of the Michigan board was $73.81; that of the Ohio board $264.06; and that of the Illinois approximately $425. In the face of this evidence no charge of extravagance can be laid at the door of the Michigan board. In fact, the more the expense in connection with the administration of this act is looked into, the more it is to be wondered how the board managed to keep the expenses within the bounds it has done.

Dr. J. A. Egan, secretary of the Illinois State Board of Health, writes: "Statement of board's receipts and expenditures during fifteen months, amounting to $7800, received. In my opinion the board has been economical, not extravagant. Fail to see how with work accomplished expenditures could be less."

Dr. Frank Winders, secretary of Ohio State Board of Registration and Examination, writes: "I am in receipt of statement of the receipts and expenses of your board during the first fifteen months of its existence. As I was the first secretary of our board, I know something of what it means to organize and clear up a State the size of Michigan or Ohio under the provisions of a medical law, and I can assure you that I believe your expenses were not excessive, but on the contrary the work was done very cheaply. In fact, I do not understand how you were able to accomplish this work within the period of fifteen months with so little expense for clerical service."

Dr. H. M. Ludwig, secretary of the Wisconsin Board of Medical Examiners, writes: "I have compared your statement of expenses with that of Indiana and Wisconsin during their registration experiences. . . . These experiences are compared with your statement for fifteen months, during which you performed one of the largest tasks of similar work in the United States. . . . In the work in this office may say that I was compelled to give it my entire time, and if it had not been a labor of love I should have thrown it up long ago. From eight in the morning to late at night, Sunday included, was my experience during the reregistration period. I would not undertake it again for five thousand dollars. I think I have had about as much clerical experience as any physician in the United States. An early business college graduate, I then followed bookkeeping for a number of years until appointed to the U. S. Weather Service. While in charge of the Memphis office I had the honor of a personal interview by General Greely relative to the position of secretary to the then projected North Pole expedition. Declining, I was then ordered by him

to the position of chief clerk in the headquarters of the U. S. Military Telegraph Lines, Division Texas, Indian Territory, and New Mexico. I cite these experiences in order to perhaps qualify to an expert opinion in the statement that the expenses of your board during the first fifteen months of its existence, amounting to $7867.77, are extremely moderate."

THE FUTURE FINANCIAL OUTLOOK.

Governor Bliss gave as an excuse for not appointing a member of the profession in the Upper Peninsula on the Board of Registration in Medicine the financial embarrassment of the board, stating that the board had spent a great deal of money and that he could not see where its future income was coming from; therefore he thought it necessary to economize in the matter of traveling expenses of members. At this time (January last) the board had a balance over all expenses of over $2100. At the close of its second year (October) the board will have a balance of $2500 to $3,000, notwithstanding the fact that the traveling expenses of the board have been increased since the last appointments by practically one member, and the secretary still resides in the Upper Peninsula.

The Governor was no doubt honest but mistaken in his criticism. He relied upon information he received from ulterior or interested sources, and not from the facts offered him by those in authority, who represented and were supported by the profession at large in this State, and who had the necessary experience and knowledge upon which to base an opinion. The expenses of the board will, in the future, amount to not more than four thousand dollars per year under the present act, with an estimated annual income of nearly five thousand dollars. This estimate is founded upon actual receipts and expenses during the present biannual period, with a balance of something like seventy-five per cent of the annual expenses, and receipts in the future more than covering expenses. If a man's income is five thousand dollars per year, his expenses four thousand, and he has a bank deposit of three thousand, with no debts, I think he could afford to keep from worrying over his financial outlook in the future. I therefore fail to see any cause whatever for alarm in the future as predicted by Governor Bliss. It is not a question of amount, whether large or small, spent by the board, but rather a question of the amount available, and if properly expended in the interests of the people and the profession. This phase of the financial question it is unnecessary to say was not touched upon by those attempting to criticize the board's financial policy.

UNQUALIFIED PERSONS REGISTERED.

It has been stated that the board has registered a great many persons who are not qualified to practice in this State. Undoubtedly there are a number of persons registered under the new act who could hardly be called qualified, but the board was powerless to refuse them registration from the fact that they were legally qualified under the old act; and the public must not lose sight of the fact that in the future no one except a properly qualified practitioner can obtain registration in this State. Therefore the supply, which was truly alarming in the past, of the itinerant practitioners who were constantly coming into this State in large numbers has been absolutely and entirely cut off, and it is only a matter of time before every man practicing medicine in the State of Michigan under the board's certificate will be guaranteed by the board to be a properly qualified physician.

ENFORCEMENT OF THE ACT.

The law provides that the prosecuting attorneys of the several counties in the State shall prosecute violations of the provisions of the act upon information furnished by the records of the county clerk, or a member or members of the registration board, or by any person entitled to credit. You will note, therefore, that the provisions for the enforcement of the medical act are similar to the provisions for the enforcement of all State laws, no better and no worse. Legislatively, the penal clauses of the act could not be improved upon. If the provisions of the medical act are not lived up to the fault lies with the prosecuting attorneys, or rather, perhaps, with the system under which they hold office. In Ontario, where the medical law is very strictly enforced, it is necessary in order to secure a conviction to prove that a fee was actually received by the unlicensed practitioner. In Michigan it is only necessary to show that the unlicensed practitioner prescribed as a physician or surgeon or held himself out to the public as a doctor or M.D., or by any other sign or appellation in a medical sense. The difference in the result lies in the fact that in Ontario the crown attorney holds office just so long as he enforces the law, while in Michigan if the prosecuting attorney does his whole duty he feels that his chances for reelection are in peril. He is consequently a trimmer in the matter of doing his duty.

The theory that it is the duty of the prosecuting attorney to instruct the sheriff to obtain the necessary evidence and lay the complaint, upon information furnished by the board or by any reputable citizen, is indorsed by the attorney-general and also by

some of the leading prosecuting attorneys of the State, but the difficulty lies in getting the ordinary prosecuting attorney to accept and put into practice this theory. It is impossible for the board to lay a complaint or to take an active part in prosecutions, for the reason that it has no specific knowledge of the facts which have to be sworn to in a complaint, and also the intent of the act does not warrant it in this course.

It is impossible from want of funds for the board to employ a detective to look after the enforcement of the penal sections of the medical act, and also it has no authority under the law for paying a detective even if it had the means for so doing. Besides, owing to popular prejudice, it is almost impossible to secure a conviction in this State, no matter how strong or direct the evidence, where a detective is used. When the people of this State become sufficiently educated to the medical law the enforcement of it will be comparatively easy, and not before.

To illustrate the difficulties of enforcing the medical act the following case is given: Complaint against a certain person for practicing medicine in Mackinac county without being registered was made. Upon investigation it was found that the party complained of was not registered and had no qualifications for a certificate of registration. The prosecuting attorney of Mackinac county was written to and the necessary information furnished, with the request to enforce the law in his county. The following is his reply:

St. Ignace, Mich., June 3, 1901.

Dr. B. D. Harison, Sault Ste. Marie, Mich.:

Dear Sir—In reply to yours of the 28th ult. in regard to —— practicing medicine, I have known of his practicing medicine for the past eighteen years, and from all I can learn he has the same success as any of the other craft in this county—that is, some get well and others die in his hands, and in about the same proportion as the others. If he has no certificate it is a neglect of his, because he has done nothing else as a business during that time.

Yours truly, James McNamara.

Sault Ste. Marie, June 10, 1901.

James McNamara, Esq., Prosecuting Attorney, St. Ignace, Mich.:

Dear Sir—I am in receipt of yours of the 3d inst. relative to the practicing without registration of ——, and in reply will call your attention to the fact that his success or non-success in practice is not a basis in this State in law for the legality of his practice, in lieu of compliance with the act, relative to his obtaining and recording with the county clerk a certified copy of registration. If the board has denied —— any rights that he legally possesses, it is his privilege to compel the board to grant him such rights, but I am unaware that he had any complaint in this direction.

You state that if he has no certificate it is a neglect of his, but there is no law that I am aware of that makes his practice legal, simply from the fact that he has neglected to do what the law requires him to do. I must insist upon the law being enforced in this case, and would call your attention to section seven of the Medical Act, which states that "it shall be the duty of the respective

prosecuting attorneys of the counties in this State to prosecute violations of the provisions of this act, upon information furnished by the records of the county clerk, etc."

Yours truly,
B. D. HARISON, Sec'y.

June 29, 1901.

James McNamara, Esq., St. Ignace, Mich.:

DEAR SIR—Further complaint has been made against ——, of ——, in your district, for practicing medicine and surgery without being registered according to law.

The Northern Michigan Benefit Association, of Manistique, writes me that this —— has been signing notices of disability against their company and requests that the law be enforced in this case. If you cannot see your way to enforce the Medical Act in your district, kindly inform me, and acting under the advice of the attorney-general I will take other measures.

Yours truly,
B. D. HARISON, Sec'y.

ST. IGNACE, MICH., July 3, '01.

Dr. Beverley D. Harison, Sault Ste. Marie, Mich.:

MY DEAR SIR—Yours of the 10th and 29th ult. duly received in regard to ——, of ——, "practicing medicine and surgery without being registered according to law." All that I know about —— practicing medicine or calling himself "Doctor," about eighteen years ago I had some business at Black River, at Gilchrist's Mill, in the western part of this county, where I had to wait for two days to take the boat, and I staid a part of a day in a building called "Dr. ——'s Drug Store," and he was there with all the paraphernalia of bottles with colored compounds to indicate a drug store, and they called him "Doctor," and I understood that he was the doctor for Gilchrist's employees. I never saw him but once after that, and had a short conversation with him of not over ten minutes. I had heard of his living at Naubinway after that, also going from there to ——, and I took it for granted that all this time and at these places he was practicing medicine.

In regard to his registration, some few days after yours of the 10th ult. I saw our county clerk on the street, and I asked him if "Dr. ——" had registered as a doctor; he said he did not think he had under the law of 1899, but he was quite sure he was under the former law. I told the clerk to look it up further and be sure about it. I saw him since in regard to it; he says he is registered in the book of the form as the other doctors under the old law, but he is not under this law of 1899.

Now, as far as —— is concerned, I have no relations with him and care nothing about him any more than any other man in Mackinaw county. You undertake in yours of the 10th ult. to tell me my duty as prosecuting attorney, etc. Now, please be advised that you have no more rights or privileges than any other man, and to set the law in motion for a prosecution you must submit to the same method as anybody else. The law would be no more and no less if it had no reference to the prosecuting attorney. It is not to foster secrecy and imposition. You say, "Complaint has been made, etc." Somebody has sent you a round robin, and you don't propose to tell who they are.

Before I will act in this matter, or any other criminal matter, some one must be willing to swear to a complaint. I will not take second-hand hearsay. Because a man is Secretary, M.D., X.Y.Z., will not do. If one of those cowards who places his name on the round robin, one of the officers of "The Northern Michigan Benefit Association," or even yourself, will give a statement, I will listen to the facts with both patience and politeness, the same as I am doing every day, and I will put it in the form required by law, and by his swearing to it a warrant will issue, and then I will see to it that the prosecution will be conducted.

I cannot say that —— is practicing medicine, and with me it is just the same as any other prosecution.

Yours truly,
JAMES MCNAMARA.

July 9, 1901.

Hon. James McNamara, Prosecuting Attorney, St. Ignace, Mich.:

My Dear Sir—I am in receipt of yours of the 3d inst. and beg to thank you for your very courteous answer to my communication of June 29, relative to ——, of ——, practicing medicine without being registered according to law.

I owe it to you to say that although I have corresponded largely with all of the eighty odd prosecuting attorneys of the State during the past two years, and have taken up and discussed with them the various questions of law and practice in connection with the present medical act, still, none of them have demonstrated to such a degree the falsity of the theory that an appointive prosecuting attorney has a higher sense of consciousness and action in the enforcement of the laws than the prosecuting attorney elected by and with the force of an electorate behind a party ticket. You will pardon me if I illustrate the theories.

In Ontario, where the crown attorney is appointed and holds his office during good behavior, an intimation to the public prosecutor by any citizen of repute that a person is practicing contrary to law would immediately be followed by investigation, and the filing of a complaint by an officer of the law under the instructions of the crown attorney, the latter under the crude and antiquated conditions of his appointment, and the consciousness of his duty to enforce the spirit as well as the letter of the law, knowing by experience that if no action was taken on his part a complaint very likely would be made to the appointive power and that he would be called upon to show cause, etc. The defense that no one had offered to swear to a complaint would be ruled out, and the following unkind questions asked: What are you there for? Is it not a fact that there was a violation of law in your district, and that you were informed of this fact and therefore had knowledge of it? Are you not responsible for the prosecution of all violations of the law in your district if you have knowledge of the same? Are you not provided with an executive force in the persons of the sheriff and his deputies, whose duty it is to enforce all State laws under your advice and direction? If a murder is committed within your knowledge and no one comes forward willingly to swear to a complaint, is it within your power to ignore it; or if, going home in the early hours of the morning, you pass a saloon doing business openly, contrary to law, is it your duty to take no action unless some citizen comes forward of his own accord and swears to a complaint? Are you charged with the responsibility of enforcing all laws or only such laws as you consider important?

On the other hand, we have the honorable prosecuting attorney of Mackinaw county, who holds office by reason of his election by the people, for the period of two years, and is entitled to reelection provided he pleases the dear people of his political party, and provided also he does not conscientiously tread on the corns of the free and independent voter who has demonstrated his ability to retaliate at the proper time.

Complaint is made by a State official, whose duty it is to enforce a certain State act, that a party is openly and defiantly violating a State law and has been doing so for some time past. The honorable, conscientious, and learned guardian of the State laws in Mackinaw county, after some preliminary skirmishing in which he advances some astounding and entirely original theories of law and practice, and which he very discreetly and wisely refuses to discuss when his attention is called to the same, acknowledges that the party complained of is violating the law and has been doing so within his knowledge for the past eighteen years, but refuses to take any action having in view the enforcement of the law in his district, unless some one—the party furnishing the information in the case—comes forward and swears to an information which the honorable prosecuting attorney of his own knowledge admits to be true. And why does he refuse to instruct the sheriff, his executive officer, to supply the means amply provided for in law by which the offender may be punished and the law enforced in his district? And why should the honorable and conscientious State attorney, charged with a solemn and sacred duty to the people, abuse and vilify the reputable citizens, who, within their rights as citizens of his county, furnish the information of a violation of law and request his action thereon? He calls them cowards. Can it be that his conscience is in evidence and that he is standing within the "ech circle?" If a complaint

was sworn to by one of the "cowards," then he is in a position to go ahead and prosecute, and he could say to his many voting friends: "It was not my fault. I was forced into it; I had no alternative. I tried the best I could to stave the matter off, but it was no good. These cowards compel me to do my duty under the law. I am not responsible, therefore you must get even with the other fellow. I have lots of troubles of my own without going after any, I assure you. I am your friend still, and don't you forget that next November. If I had not been you would have been arrested a year ago and might have been in jail ever since. Then he goes home to his fireside and says to his wife: "What a cowardly thing it is and how inconsiderate, when a fellow is trying to do his duty to the people responsible for his election and position to have some fellow come along and cause all this hard feeling simply because some law which hardly any one knows anything of and cares less for is violated by a poor cuss whom all the other cusses are after."

It is not a pleasant thing for me to be obliged to compare the methods of the administration of law in this State unfavorably with that of a foreign country, and it would not be necessary for me to do so if the honorable prosecuting attorney of Mackinaw county had the same conception of his duty that Ex-Prosecuting Attorney Fraser and Prosecuting Attorney Hunt of Wayne county, and Prosecuting Attorney Cross of Muskegon county, not mentioning the honorable attorney-general of the State, have; but unfortunately there are a number of other prosecuting attorneys in this State whose ideas of law are upon a similar plane to that of their Mackinac brother.

I must thank the latter again for his very considerate letter, in which he so very clearly defines and illustrates his theory of the duties, aims, and responsibilities of the prosecuting attorneyship under the elective system. I have been endeavoring to obtain such a letter for some time, as I am preparing an article for publication in which I discuss the difficulties and hindrances in administering laws in this State, and this letter very thoroughly covers the theory and practice of the ordinary prosecuting attorney, which I aim at presenting in his own colors and under his own signature to the profession and interested people of the State for their consideration and criticism.

With my personal regards,

Yours very truly,
B. D. HARISON, Sec'y.

A RESUME OF THE SUBJECT OF ACTINOMYCOSIS; WITH REPORT OF A CASE OF ACTINOMYCOSIS ABDOMINALIS.*

BY A. VAN DER VEER, M.D., AND ARTHUR W. ELTING, M.D., ALBANY, NEW YORK.

The polymorphous fungus belonging to the genus of Oöspores was first recognized by von Langenbeck in 1845. In 1857 Lebert described a case of thoracic actinomycosis, observed by Louis in 1848, and published cuts of the actinomyces in his atlas, believing, however, that these fungi were the débris of cysticerci.

From 1868 to 1875 Rivolti and Perroncito demonstrated the so-called sarcomata of the jaws of cattle to be due to actinomyces. Bollinger at the same time recognizing the characteristic fungus in "lump jaw" in cattle, and referred it to the botanist Harz, who classified and gave to it the name of actinomycosis.

Actinomycosis in human pathology dates from the works of

*Abstract of paper read at the semiannual meeting of the Medical Society of the State of New York, New York City, Oct. 16, 1901.

Israel in 1878, this author and Ponfick recognizing the identity of bovine and human actinomyces, even before the transmissibility of the disease had been proven by inoculation experiments, the latter, however, not being successful until 1880, when Johne produced the disease in a cow inoculated with some of the actinomycotic granules obtained from an animal of the same species. In 1883 Israel successfully inoculated the human actinomyces into a rabbit.

During the decade from 1880 to 1890 there were published two important articles—*i. e.,* the classical monograph of Israel, in 1885, with a report of thirty-seven cases of human actinomycosis, comparatively little having been added since; the second article was published by Böstrom, in which he paid special attention to human actinomycosis, and the transmissibility of the disease through vegetable life.

During the past decade much interest has been aroused in France, and among the best of the numerous publications is the exhaustive monograph of Poncet and Berard.

To-day the literature upon the subject in America is quite extensive, the disease no longer being regarded as of infrequent occurrence.

A great variety of names have been proposed for the fungus, the true distinction, however, between Madura foot and the group of pseudo-actinomycosis being clearly established by Blanchard in 1895.

In the infected tissue, contents of abscess cavities, or discharge from fistulous passages, the actinomyces are usually present, in the form of small, yellowish, more or less opaque granules, in size from .15 to .75 millimeter, although larger granules often occur; they are usually grayish-white, transparent, easily broken up, and of a consistency of soft jelly. Becoming older the granule grows more opaque and yellow, finally becoming impregnated with calcium salts, which gives rise to a structureless concretion.

The actinomyces stain readily with ordinary basic aniline dyes, not being decolorized by Gram's method, are a facultative anaerobe, and grow upon most of the common bacteriological media. The best temperature is from 33° to 37° C., and even under these conditions culture development is slow, requiring from five to fifteen days. Very often actinomyces are mixed with other microorganisms, the latter having a more vigorous growth, and tending to obscure the former. The most common of these microorganisms are the staphylococci, the streptococci, colon bacillus, and leptothrix bacillus.

Actinomyces possess a surprising ability to develop upon

cereals and vegetable media in general. At 45° C. the growth of the fungus is arrested, and rapidly destroyed at 60° C.

The spores are more resistant to injurious agencies than the mycelium, although less so than the spores of bacteria. Greater resistance to noxious agencies is possessed by the spores grown upon cereals, experiments by Berard and Nicolas showing that some spores have lived as long as four years upon certain cereals and under unfavorable conditions.

There are a few cases on record where it seemed probable man had contracted the disease from animals, but it would appear that prolonged, intimate, and close contact is necessary, which seems to indicate that the virulence and infectiousness of the actinomyces are diminished in animal organisms.

The consensus of opinion is that the great carriers of actinomycotic contagion are the different forms of cereals, especially barley, through their agency both man and domestic animals becoming infected. Pieces of cereal grains have been found in the focus of infection, the history of the case pointing almost definitely to their being the source of the disease.

Vegetables, especially those grown above ground, may also convey the contagion to man and animals.

Men are much more frequently infected than women, probably as a result of their being more exposed to infection.

Of 357 cases of human actinomycosis, collected by Hutyra, one-third occurred in the third decade of recognition of the disease.

Five chief avenues of infection have been distinguished:

1. Through the mouth and pharynx.
2. Through the respiratory tract.
3. Through the gastrointestinal tract.
4. Through the skin—wounds, etc.; and
5. A group of cases in which no definite portal of entry is discoverable.

Microscopically a focus of actinomycotic infection is characterized by a central zone, containing the fungus either free or attached to the foreign body by means of which it gained access to the part, this zone containing more or less cellular detritus and products of degeneration.

The blood-vessels in the immediate vicinity of the focus are but rarely obliterated.

All the actinomycotic lesions can be divided into two great classes: (1) The neoplastic type, which is usually found in horses and cattle; (2) the inflammatory type, usually found in man and hogs.

The neoplastic type is the form in which spontaneous recovery not infrequently occurs.

In the inflammatory type the process of destruction exceeds in rapidity and intensity that of defense, and tends to the production of sinuses but not of large abscess cavities, the latter usually being the result of a secondary infection.

The muscles and bones afford a very unfavorable medium for development or extension of actinomycotic foci.

The tendency to the formation of fistulous passages is quite characteristic, the discharge presenting marked differences. In some instances it is serous, in others seropurulent, and in others distinctly purulent. Secondary infection practically always exists in fistulous cases.

Another characteristic feature of actinomycotic lesions is the tendency to extend by continuity rather than by metastasis.

Poncet and Berard propose a division of actinomycotic infections into the following groups: (1) Cervicofacial, (2) thoracic, (3) abdominal, (4) cutaneous; foci in bone, the spinal column, the genito-urinary organs, the brain, special organs of sense, etc., being regarded as complications.

Statistics prove that about fifty-five per cent of the cases were of the cervicofacial type; twenty per cent thoracic and pulmonary; about twenty per cent the abdominal type; and about five per cent of a variety of types.

There has never been a definitely authenticated case of primary abdominal actinomycosis reported which did not originate from the gastrointestinal tract, adhesions and abscesses being the characteristic features, and abscesses always resulting from a secondary infection.

The actinomyces gain access to the stomach along with either animal or vegetable food, most commonly the latter. Neither the gastric juice nor the bile appears to have any very decidedly harmful effect upon the fungus.

The different portions of the alimentary tract seem to be affected in direct proportion to the length of time which the intestinal contents remain in the different parts.

Intestinal actinomycosis appears first as a small nodule in the submucosa, which undergoes degeneration at its center, and presently gives rise to a small ulcer with undermined edges, which may extend either by progression or by confluence of several small ulcers, which, in certain instances, heal and leave irregular pigmented scars.

As the process extends there is a decided tendency for the involved portion of the intestine to become adherent to other portions of the intestine, the abdominal viscera or the abdominal wall,

preventing, in most instances, a perforation into the general peritoneal cavity. When the process originates from the colon—*i. e.*, a portion of intestine not provided with a mesentery—retroperitoneal abscess is not an uncommon complication.

In some instances the intestine adherent to the abdominal wall has perforated externally, forming a fecal fistula.

Perforation into the bladder is of rare occurrence, although cases have been reported by Böstrom, Hesse, Billroth, and others.

The prostate has, in a few instances, been involved by extension of the disease from the rectum.

In women the pelvic viscera have sometimes been extensively involved by extension of the process from the primary intestinal focus.

In all the literature Grill was unable to find a single authentic case where abdominal actinomycosis had extended through the lymph channels.

Metastasis, in the great majority of cases, takes place through the veins rather than the arteries.

Among the secondary lesions of abdominal actinomycosis those of the liver are the most frequent, involvement occurring either by continuity, contiguity, or metastasis. In twenty of the thirty cases of hepatic actinomycosis collected by Aribaud the primary focus was intestinal.

In from fifty to sixty per cent of abdominal actinomycosis the primary focus is the cæcum, appendix, or contiguous portions of the ileum and colon—*i. e.*, in the right iliac fossa; from ten to fifteen per cent of the cases are in the rectum. In comparatively few cases has the primary focus occurred in the small intestine. There thus remain a certain number of cases in which the primary focus is undetermined, even though careful post-mortem examinations have been made.

Grill has distingushed three typical periods in the course of abdominal actinomycosis: (1) The initial period; (2) the period of tumor formation; (3) the period of fistula. To these three periods Hinglais has added a fourth—a period of repair.

Although in certain cases this or that period may predominate or be entirely absent, nevertheless the periods mentioned are usually characteristic of the disease, when localized in the abdomen.

Pain, while usually present, is rarely severe, being rather a sensation of tension and discomfort.

In rectal actinomycosis the fistulæ usually open about the anus and occasionally in the loin or above the pubis. Spontaneous recovery is possible, even though there be extensive infiltration of the abdominal wall, with numerous fistulæ.

The duration of the disease is quite variable—from a few weeks to several years.

The prognosis in abdominal actinomycosis, even though the process be extensive, is not necessarily hopeless, for there are on record a considerable number of cases that have recovered.

In general one can say that those cases offer the best prognosis which are most amenable to surgical treatment—*i.e.*, the abdominal form rather than the thoracic. The oldest cases are most unfavorable because of the possibilities offered for extension or metastasis.

In seventy-seven cases of abdominal actinomycosis treated surgically Grill found twenty-two recoveries, ten improvements, and forty-five deaths.

It is practically impossible to recognize abdominal actinomycosis in its earliest stage, although examination of fecal matter has in a few instances led to a comparatively early diagnosis. In the later stages, when tumefaction is extensive, with foci of suppuration and numerous fistulæ, and the discharge contains characteristic granules, diagnosis is comparatively easy.

Sarcoma, carcinoma, and tuberculosis of the cæcal region must also be considered in differential diagnosis.

Greater care in the selection and preparation of cereals and vegetables would certainly diminish the number of infections by this avenue. Since thorough cooking destroys the spores of actinomyces in flesh, prevention of the infection from this source would appear to be comparatively easy.

Therapeutically a so-called specific for actinomycosis has never been discovered, although iodide of potassium possesses certain qualities which produce a favorable result. In general iodide of potassium appears to act more satisfactorily and effectually the earlier in the course of the disease it is administered, and in large and gradually increasing doses. Experiments have shown that it has little or no effect upon the growth of the actinomyces on artificial media.

Billroth, Kahler, and others have tried the effect of tuberculin, improvement seeming to have followed its employment in a few instances. An interesting fact brought out by Kahler, Illich, and Wolff, and confirmed by Arloing, is that men and animals infected with actinomycosis react to Koch's tuberculin the same as in cases of tuberculosis.

Ziegler has reported a favorable result following the injection of protein obtained from cultures of the staphylococcus pyogenes aureus.

Gautier has seen favorable results follow the use of electrolysis, and Braum recommends the use of Fowler's solution.

In general, however, combined medical and surgical treatment would appear to have produced the best results, especially in the forms of actinomycosis more superficially placed.

It is frequently difficult to determine the extent of the process, and consequently the extent of surgical intervention required.

Careful exploration of the fistulæ and foci should be practiced, so far as possible, with the removal of as much diseased tissue as consistent. If apparent recovery occurs the case should, nevertheless, be watched for several years because of the great possibility of recurrence.

Mr. A. S——, Castleton, N. Y., aged forty-five, native of United States, carpenter by occupation, and married, was admitted to Albany Hospital February 22, 1901. Provisional diagnosis, sarcoma of cæcum or mesentery; corrected diagnosis, actinomycosis abdominalis. Treatment: operation and medical.

Family history good. Previous history: Patient had usual diseases of childhood, and typhoid fever at the age of fifteen; was quite ill, but made a good recovery. Denies venereal disease of any kind. Patient has partaken sparingly of stimulants; smokes and chews tobacco rather excessively; has associated much with animals; never worked in grain. General health always good; no serious injuries.

Present illness began November 27, 1900. While at work he had pain in stomach; however, he finished his day's work, and then tried various remedies without relief. Had sharp cramps in lower portion of abdomen, very severe for three or five minutes, recurring at first every half-hour or so. Did not obtain relief for a week, although under the care of a physician. Pain gradually diminished, but did not disappear for eight weeks from onset. No chills, fever, or vomiting, but slightly nauseated. Pain not localized or radiating, but seemed, to patient, to be in abdomen. No jaundice; no distention of abdomen that patient ever noticed. Bowels and kidneys normal in functions.

January 1, 1901. Patient was able to be up, around, and improved quite rapidly. In the middle of January he superintended an ice gang.

February 1. As well as usual, and had regained normal weight.

February 20. Still feeling as well as ever, but noticed a small tumor in region of umbilicus, for which he came to the Albany Hospital February 22, under my care.

Physical diagnosis: Distinct tumor, size of a fist, in right iliac region; smaller tumor, inflammatory in character, evidently containing pus, at umbilicus; smaller masses to be felt through and in abdominal wall, giving an impression of sarcoma of the

mesentery. Heart, lungs, spleen, and stomach normal. Liver dulness extended about one fingerbreadth below costal margin. Skin over tumor red, with yellow spot in center. Urine amber, 1030, acid, no albumin or sugar, sediment slight, and a very large number of calcium oxalate crystals present.

Blood examination revealed leucocytes 18,500, reds 4,710,000.

Operation February 28, 1901. Abdominal incision six centimeters long in median line. Peritoneum found adherent to coils of small intestines in various places, with a flattened tumor, size of half a hand, springing from right iliac crest. While it was supposed to be a case of multiple sarcoma of the mesentery, yet it differed from any similar case I had ever seen. There was a distinct hardening of this portion of the peritoneum extending to the umbilicus, along the course of the urachus and round ligament of liver, with an abscess presenting just under the skin. The latter was not opened for fear of infecting the peritoneum. Incision in peritoneum closed with fine silk continuous sutures; wound closed with interrupted silkworm-gut sutures and iodoform gauze introduced in lower end of incision, then standard dressing. The gauze was removed on the fourth day, and drainage encouraged thereafter, the abscess of the umbilicus having opened and discharged a creamy, flaky-like substance. Specimens of discharge and tumor were saved, but lost later, and did not reach the Bender Laboratory for examination.

Patient put upon syrup of hydriodic acid, strychnine, and elixir of calisaya, with as good nourishment as possible.

Not feeling at all certain of my diagnosis, and the possibility of actinomycosis, about April 11 I asked Dr. Elting to look the case over carefully, and make a thorough examination of the discharge. This was done, and the case was found to be one of typical actinomycosis. Cover-slips stained by Gram's method showed the characteristic fungi. Cultures from several of the abscesses showed so vigorous a growth of the bacillus coli communis that the growth of the actinomyces was obscured. Patient was now administered iodide of potassium in increasing doses—*i. e.*, a saturated solution, commencing with three drops in a wineglassful of water before each meal, increasing three drops each day until sixty drops was reached, and this dose continued.

May 1, 1901. Condition improved somewhat, although it was necessary on two occasions to open abscesses in the abdominal wall. Less numerous actinomycotic granules in discharge than before the administration of iodide of potassium was begun. Large tumor still in right lower quadrant of abdomen, extensive induration, and infiltration of abdominal wall, and four fistulous openings.

June 15. Patient's general condition not quite as satisfactory

as at previous note. Three discharging sinuses in abdominal wall, the discharge seropurulent, and containing a moderate amount of actinomycotic granules. Appetite good; no gastrointestinal symptoms. At patient's request he was discharged from the hospital and advised to continue the large doses of iodide of potassium.

June 29. Patient readmitted to hospital for further observation. General condition somewhat improved, but there are more discharging sinuses than at last note.

August 20. Patient returns feeling much better than when seen about three weeks ago. Condition of abdomen distinctly improved. Some of sinuses closed, and discharge from remaining ones decidedly less.

Patient says two weeks ago a small pimple or blackhead developed on right side of the nose, near inner angle of eye. This was squeezed by his wife, who had attended to the abdominal wounds. Forty-eight hours later patient noticed some pain and swelling about nose, which gradually increased, and a tumor, the size of a hen's egg, developed, which almost entirely closed right eye. Hot applications were employed, and about a week from onset tumor broke and discharged considerable pus. There still remains a tumor the size of a large pigeon's egg, the skin near and around presenting a livid appearance. Discharge seropurulent, and contains a few typical actinomycotic granules. Potassium still continued.

September 20. Patient returns feeling much improved. Abscess of nose entirely healed. Abdominal condition much improved. There are still a few actinomycotic granules in discharge from sinuses in abdominal wall.

October 12. Patient shows still further improvement. Has been doing light work for several weeks past. Color good and general appearance excellent. Four or five discharging sinuses in abdominal wall, containing a small amount of discharge, with an occasional actinomycotic granule, mostly in an early stage of development.

If this case is studied carefully it is very striking to observe the characteristic conditions that have been described by many authors—*i. e.*, the tumors to be felt in the peritoneal cavity and in the abdominal walls, the peculiar reddish-blue appearance of the surface of the abdomen, the multiple abscesses containing yellowish-like pus and granules. All of these conditions are indicative of actinomycosis; also the patient's improvement for a time after operative intervention, and still further improvement when getting under the full effect of the iodide of potassium, the infection of the nose, and rapid recovery, all aid in confirming the previous diagnosis.

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EDITED BY FREDERICK W. MANN, M.D.

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EDITORIAL ARTICLES.

TUBERCULOSIS OF CHILDREN.

The extreme rarity of direct hereditary tuberculosis of paternal transmission—only four cases having been recorded—and the extreme rarity of primary genital tuberculosis in the vagina or uterus, constitute a clinical experience which practically proves that the paternal transmission of tuberculosis does not exist. Maternal transmission can take place through the placenta, and forty cases of indisputable congenital tuberculosis are now on record. When these facts are taken into consideration, with the undoubted and wide-spread prevalence of tuberculosis in child life, the conviction is forced upon us that tuberculous infection in children is acquired from without and not from within the body, however much hereditary predisposition may enter as a factor in its acquirement.

The able paper of Dr. Knopf, in the last *Bulletin of the Johns Hopkins Hospital*, wisely emphasizes the precautions that should be taken to prevent infection in children. According to statistics the maximum death-rate from tuberculous lesions in children is reached between the second and fourth years. To what shall this be ascribed? To blame all on the milk supply would be obviously unscientific. Autopsies moreover show that a large percentage of children have contracted tuberculosis by inhalation, since the bronchial glands are the foci.

Again and again the old danger of tuberculous sputum is demonstrated. The caresses of the tuberculous parent do not comprise the whole danger. The child, as soon as it can creep, is exposed to all kinds of danger. If there is a consumptive in the family, there will be opportunity for the little one to inhale the dust laden with bacilli. It will touch everything on the floor, and put its fingers in its mouth. It will inoculate itself with tuberculous material through its nails. Local infection of this kind

often occurs in eczematous cases. Picking the nose may be a cause of infection, and a thousand other things.

How can these things be prevented save by carefully educating the parents as to the nature of tuberculous infection. The prohibition of kissing, within rigorously prescribed limits, must also be taught. Love of open-air life must be early instilled, and all the paraphernalia of school hygiene must be carefully supervised. In the personal care of each case much can be done. As Dr. Knopf says: "The proper bringing up of children that have a tendency to become tuberculous is of the greatest importance. Many are poor eaters from the day of their birth. Discipline, not to allow too many sweets, to observe regular meal-times, and to keep the bowels in good condition, are the best means to combat a dislike for eating. As early as possible children should be taught to clean their teeth thoroughly after each meal, for a good digestion is dependent upon the good state of the teeth. The dislike to play outdoors, which is so characteristic of the little candidates for tuberculous diseases, can also only be overcome by discipline. To dress them too warmly and bundle them up all the time is as injurious as having them remain most of the time indoors. This hardening of the constitution will be the best method to counteract a disposition to take cold easily, which in children predisposed to tuberculosis has often a tendency to develop catarrhs of the deeper respiratory tract."

EDITORIAL NOTES.

Consulting the Physician.

Perhaps one of the worst mistakes which people are apt to fall into is that of neglecting to make use of the services of reputable physicians when they are actually in want of them. What a common thing it is to hear a thoughtless individual boasting, and with evident satisfaction in his claim, that he has no use or need for the services of a physician, and would have the whole fraternity done away with if he could have his way, their knowledge or skill being not one whit superior to his own in any way as far as he could see.

Now this is folly; it is mere speculating, with life and death as the stakes, to rely upon oneself in case of sickness. It is bad enough to gamble with one's property, to place it in danger of loss with any unfortunate turn of affairs, but to gamble with life itself, which it is not man's to give or take away, is unpardonable.

We have good and wise laws which provide that no one shall hold himself out to the public as a physician until he has fulfilled

certain requirements by way of preparation. This is well, and as it should be. But on the other hand, there is not a regulation of any kind whatever upon any of our statute books which in any way obliges a man who is dangerously sick to make use of the skilled services thus provided by the requirements of the State. A man may set them all at defiance if he will—figuratively, slap them in the face.

It sometimes seems strange that this should be so, but the explanation of it seems to be that the State assumes that every man will have the good sense to make use of the assistance at hand; and so indeed he ought.

Some time ago a missionary who was a skilful physician determined to go into Korea to teach the gospel truths there. He was assured that his undertaking was a hazardous one, and would doubtless end in the loss of his life, but he determined to make the attempt, nevertheless. By means of his skill at his profession he gradually worked his way into the confidence of this people, and was enabled to gain a foothold among them thus. One day a high official was wounded severely, and as a last resort the stranger was sent for. He found the native doctors endeavoring to stop the flow of blood from a severed artery with warm wax! Great was their awe at his skill in handling the case.

There are just such people to be met with at home, to-day. Don't be a warm-wax Chinaman. Show yourself possessed of the sound sense which the law has paid you the compliment of assuming you to possess. Send for the doctor as a first, not as a last, resort. It stands to reason that his knowledge and experience are superior to yours.

The Present Status of the Neurologist.

In the president's address delivered to the American Neurological Association in June last, Dr. G. L. Walton (*Journal of Nervous and Mental Disease*, July, 1901) discusses the position of the neurologist to-day, and finds it in advance of that of former years. Especially has there been a widening advance in his position as a consultant. By the surgeon, the physician, the laryngologist, the oculist, he is frequently summoned as an aid to unraveling difficult cases. It has therefore become a *sine qua non* that he keep in touch with the advances in other specialties and in general medicine. While his effective special work may inevitably narrow to some extent, he must keep his interests broad and general. The family physician is in no danger of being crowded out. He will always have his special function.

ITEMS AND NOTES.

THE epidemic of smallpox in Paris is now dying out.

SMALLPOX in Cleveland has been thoroughly eradicated.

SMALLPOX is reported as becoming more diffused in London.

MONTREAL is threatened with another epidemic of smallpox.

"MANILA itch" is at the present time almost uncontrollable in the Gila Valley, Arizona.

THERE is an epidemic of typhoid fever at the State Reformatory, Jeffersonville, Indiana.

AN epidemic of typhoid fever is reported from Stratford, Ont., and the surrounding country.

DR. MEADE BOLTON, of Johns Hopkins University, has been elected director of the Marion Sims Beaumont Medical College, St. Louis.

THE University Medical School of New York has received a donation of $25,000, from a benefactor who wishes his name withheld.

IN Battle Creek, Mich., there are fifteen companies organized for manufacturing health foods. The total capital stock represented is $10,575,000.

THE Board of Regents of the California State University has decided to take over the entire management of the University of California Medical School.

A NURSE in a Paris hospital fatally burned a child by placing it in almost boiling water. She was fined $400 and condemned to fifteen days' imprisonment.

GATHERING of cigar remnants to work over into cigars has been prohibited in Jersey City, it being claimed that this practice causes a spread of tuberculosis.

A LARGE bronze tablet has been erected in the corridor of the biological laboratory at Johns Hopkins University to the memory of the late Prof. H. N. Martin.

A NEW YORK physician, Dr. William T. Jenkins, is organizing what will be known as a Merchant Marine Hospital Service to afford medical service to foreign merchant seamen in New York and other ports.

Drs. Kinear and Hoyt, of St. Catherine's Hospital, Brooklyn, New York, announce the successful use of intradural injections of antitetanic serum in a boy of fourteen.

The New York City Board of Estimates has authorized a bond issue of $275,000 for the construction of a hospital in Lenox Avenue between 136th and 137th Streets, to be known as the New Harlem Hospital.

The London School of Tropical Medicine has been offered the sum of $5000 by the Christmas Islands Phosphate Company toward the expenses of a scientific expedition to those islands for the investigation of beriberi.

The deputation sent out recently by the Portuguese government to investigate the sleeping sickness in the islands of Angola and St. Thome is reported successful, inasmuch as the bacterium causing the disease has been found.

On October 22, at the bicentennial celebration of Yale University, Prof. Wm. H. Welch, of Baltimore, delivered an address on "Yale in its Relation to Medicine," and Dr. Daniel C. Gilman one on "Yale in its Relation to Science and Letters."

A royal commission has been appointed in Great Britain, according to the *Medical Record,* to study the relation of bovine and human tuberculosis, the object of the inquiry being to determine whether animal and human tuberculosis are identical, whether animals and humans can be reciprocally infected, and under what conditions, if at all, transmission to man occurs, and the means of preventing it if it is proven to be possible. The commissioners are Sir Michael Foster, secretary of the Royal Society; Dr. Sims Woodhead, professor of pathology, Cambridge University; Dr. Harris Cox Martin, Professor J. McFadyean, and Professor R. W. Boyce.

On September 29 a memorial was unveiled to the memory of Pasteur at Arbois, his home. The memorial is the work of Monsieur Daillon, the sculptor, and Pasteur is represented seated. On the other side of the pedestal, which is severe in style, are two bas-reliefs representing respectively a group of vine-dressers and herdsmen, symbolizing the services which Pasteur rendered to agriculture, and the other showing the operation of inoculation for hydrophobia. On the plinth is a medallion containing the effigies of the father and mother of Pasteur. The Minister of the Colonies, who presided at the ceremony of unveiling, finished his oration by saying that if throughout the world there is one popular Frenchman that one is Pasteur.—*Lancet.*

NEW PUBLICATIONS.

THE DISEASES OF THE RESPIRATORY ORGANS, ACUTE AND CHRONIC.

The press of G. P. Engelhard & Company, of Chicago, have issued a small manual from the pen of Dr. William F. Waugh, of Chicago. The book deals exclusively with acute and chronic derangements of the respiratory tract. It is written in a terse and interesting style, and the matters of differential diagnosis, physical signs, and symptoms are well handled in a way calculated to fix many points in the memory of the reader. The treatment is largely a matter of various alkaloids, and its value might be called in question by those not thoroughly *en rapport* with alkaloidal therapeutics.

Especially worthy of commendation are the three last chapters in the work devoted to a discussion of chronic phthisis, camp and sanatorium treatment, and the management of the predisposed.

The Diseases of the Respiratory Organs, Acute and Chronic. By William F. Waugh, A.M., M.D., Professor of Practice and Clinical Medicine, Illinois Medical College. Pages 221. Chicago: G. P. Engelhard & Company, 1901.

TEXT-BOOK OF BACTERIOLOGY.

The manual of bacteriology first published by Sternberg in 1892 has now appeared in its second edition as the Text-Book of Bacteriology. The work contains many additions, notably chapters on "Protective Inoculations in Infectious Diseases," and one on the "Bacteria of Plant Diseases." The manual as it now appears is a complete compendium of all that relates to this important branch of medicine. The fame and reputation of its author are an adequate guarantee of its authoritativeness. The book is presented to the reader in admirable form, and the large numbers of cuts and colored plates that elucidate the text make it as invaluable to the laboratory student as to the practicing physician.

A Text-Book of Bacteriology. By George M. Sternberg, M.D., LL.D., Surgeon-General U. S. Army; ex-President of the American Medical Association and of the American Public Health Association; Honorary Member of the Epidemiological Society of London, of the Royal Academy of Medicine of Rome, of the Academy of Medicine of Rio de Janeiro, of the Société Francaise D'Hygiene, etc., etc. Illustrated by Heliotype and Chromolithographic Plates and Two Hundred Engravings. Second Revised Edition. New York: William Wood & Co., 1901.

HANDBOOK OF PATHOLOGICAL ANATOMY AND HISTOLOGY.

This well known text-book now appears in its sixth edition. The general aims of the book are to give to students and practitioners the knowledge necessary to make all kinds of pathological study, and to call attention to the relations existing between pathological and biological conditions. The chapter on the blood has been revised in accordance with modern knowledge, and Dr. Wood has entirely rewritten his chapter on malaria.

The admirable way in which the text has been presented and the excellent illustrations reflect credit upon those responsible for the production of this work.

A Handbook of Pathological Anatomy and Histology. With an Introductory Section on Post-mortem Examinations and the Methods of Preserving and Examining Diseased Tissues. By Francis Delafield, M.D., LL.D., and T. Mitchell Prudden, M.D., LL.D. Sixth Edition. With 13 Full-page Plates and 453 Illustrations in the Text in Black and Colors. New York: William Wood & Co., 1901.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Report of the Autopsy on President McKinley.

Harvey R. Gaylord (*Philadelphia Medical Journal,* Oct. 19, 1901) says that in summing up the macroscopic and microscopic findings of the autopsy the following may be stated: The original injuries to the stomach wall had been repaired by suture, and this repair seems to have been effective. The stitches were in place, and the openings in the stomach wall were effectually closed. Firm adhesions were formed both upon the anterior and posterior walls of the stomach, which reenforced these sutures. The necroses surrounding the wounds in the stomach did not seem to be the result of any well defined cause. It is highly probable that they were practically terminal in their nature, and that the condition developed as a result of lowered vitality. In this connection there is no evidence to indicate that the removal of the omentum from the greater curvature, and the close proximity of both of these wounds to this point, had any effect in bringing about the necrosis of the gastric wall, although circulatory disturbances may have been a factor. The fact that the necrotic tissue had not been affected by digestion strongly indicates that the necrosis was developed but shortly before death. The excavation in the fat behind the stomach must be largely attributed to the action of the missile. This may have been the result of unusual rotation of a nearly spent ball, or the result of simple concussion from the ball passing into a mass of soft tissues. Such effects are not unknown. The fact that the ball grazed the superior aspect of the left kidney, shown by the microscopic investigation of that organ, indicates the direction of the missile, which passed in a line from the inferior border of the stomach to the tract in the fat immediately superior to the kidney. There was evidence that the left adrenal gland was injured.

The injury to the pancreas must be attributed to indirect, rather than direct, action of the missile. The fact that the wall of the cavity was lined by fibrin, well advanced in organization, indicates that the injury to the tissues was produced at the time of the shooting. The absence of bacteria from the tissues indicates that the wound was not infected at the time of the shooting, and that the closure of the posterior gastric wound was effectual.

The necrosis of the pancreas seems to us of great importance. The fact that there were no fat necroses in the neighborhood of this organ indicates that there was no leakage of pancreatic fluid into the surrounding tissues. It is possible that there was a leakage of pancreatic fluid into the cavity behind the stomach, as the contents of this cavity consisted of a thick, grayish fluid, containing fragments of connective tissue. In this case the wall of fibrin would have been sufficient to prevent the pancreatic fluid from coming in contact with the adjacent fat. The extensive necrosis of the pancreas would seem to be an important factor in the cause of death, although it has never been definitely shown how much destruction of this organ is necessary to produce death. The wound in the kidney is of slight importance, except as indicating the direction taken by the missile. The changes in the heart, as shown by the macroscopic inspection and the microscopic examination, indicate that the condition of this organ was an important factor. The extensive brown atrophy and diffuse fatty degeneration of the muscle, but especially the extent to which the pericardial fat had invaded the atrophic muscle fibers of the right ventricular wall, sufficiently explain the rapid pulse and lack of response of this organ to stimulation during life.

Treatment of Renal Calculus.

J. Hutchinson, Jr. (*British Medical Journal,* Oct. 19, 1901), says that the *x*-rays (except, perhaps, in stout subjects, or in the case of very small stones) enable an exact diagnosis as to size, position, and number of renal calculi to be made. They enable the surgeon in performing the operation of nephrolithotomy to do so with the least possible injury to the kidney, and to dispense with bringing that organ to the surface of the wound.

Limited incisions made directly over the calculi through the renal pelvis are to be preferred when practicable. Such wounds of the pelvis heal well.

Before the operation it is most important to get the urine into a healthy condition. The administration of urotropin before and afterward is of much value.

Renal calculi, however small, should be operated on as soon as they are positively diagnosed. Their danger to the kidney structure and to the patient's life bears no relation to their size.

The Parasitic Theory of Cancer.

Borrel, of the Pasteur Institute of Paris, has recently published an excellent review (abstracted in *American Journal of the Medical Sciences*, September, 1901) of the literature on the theory of the parasitic origin of cancer. He divides his work into three stages:

1. "Parasites" described by Neisser, Darier, and others. Borrel believes that their "parasites" were epithelial cells undergoing special changes.

2. "Parasites" of the type described by Thoma, Sawtchenko, and others. These are intracellular bodies, round, single, or multiple, occurring chiefly with carcinomatous epithelium of glandular type. These bodies show a superficial resemblance to certain stages in the development of coccidia. Borrel believes that these bodies arise from peculiar changes which occur in the attractive sphere and centrosome of carcinoma cells.

3. "Parasites" believed by some men to be blastomycetes. Borrel says that the men who believe in this theory have assumed that all sorts of cell inclusions with a circular outline are blastomycetes, while in fact the inclusions have no morphological likeness to blastomycetes, and the infinite variety of cell inclusions even in carcinoma cannot all arise in the same way. The objections to the blastomycetic theory are: the nodules produced in animals by inoculation with blastomycetes are, with the exception of two cases of Sanfelice, of mesoblastic type; most men, with decent asepsis in making cultures, do not obtain cultures of blastomycetes from carcinomata, and there is no evidence that yeasts are found within epithelial cells. Borrel analyzes Sanfelice's two "successful" cases and decides that there is no evidence that the tumors were due to the action of blastomycetes.

Borrel's own contribution is a demonstration of the fact that bodies morphologically identical with the "parasites" of cancer are produced in normal and carcinomatous cells by certain peculiar changes in the attractive sphere and centrosome. He employs special technique in hardening and staining tissues. In the testicle of guinea-pigs the attractive sphere and the centrosomes of cells which are to become spermatozoa show stages of development in which they resemble the "parasites" seen in cancer cells. In the cells of carcinoma the attractive sphere with included centrosomes may give rise to exactly similar appearances. At times there comes a collection of portions of the sphere about each of several centro-

somes, producing appearances like those seen in the "spore cyst" of various believers in the parasitic theory.

Hence, Borrel concludes that the so-called "parasites" are due to peculiar changes of the attractive sphere about the centrosome. He says that the theory of parasitic cause is attractive, but that at present there is no evidence to support any of the theories.

The Pathological Alterations of the Kidneys in Pulmonary Tuberculosis in Reference to the Passage of Toxins and Tubercle Bacilli.

The following conclusions, based upon the study of the kidneys of persons who died of phthisis pulmonalis, are made by G. D'Arriga (*Centralblatt f. Bak. und Infekt. Krank.*, Sept. 4, 1901):

1. In the kidneys of tuberculous persons, in the mild as well as severe forms, there are invariably present alterations in the vessels, in the interstitial substance, and in the renal epithelium.

2. In the early stages of pulmonary tuberculosis the lesions in the kidney are not severe, and seem to be due to the passage of the toxin through them. This tuberculous toxin attacks the vessels first, then the interstitial connective tissue and the epithelium.

3. If the tuberculous process in the lungs increases, in addition to the toxins, the tubercle bacilli are carried to the kidneys and there form colonies.

4. The circulatory and functional disturbances of the kidney which are caused in the beginning by the toxin facilitate the later colonization of the bacilli in the kidneys. In this manner the kidneys became a *locus minoris resistentiae*.

5. How the bacilli reach the kidney it is difficult to state, though it must be through the circulation. The bacilli were found in most cases in the glomeruli and in the interstitial connective tissue, but never in the blood-vessels or in their walls. These cases must not be confounded with acute miliary tuberculosis.

The Significance of Apex Pneumonia.

E. F. Cordell (*Maryland Medical Journal*, October, 1901) says that acute lobar pneumonia affecting the apex is about one-third as frequent as that affecting the base, and of the two apices, the right is affected about three times as often as the left. Involvement of one apex and the opposite base is very rare, and that of the two apices still rarer. Apex pneumonia is not rare in early life, and

the relative involvement of the upper and lower lobe corresponds with that in the adult. The general mortality of the apex and basal forms is about the same. Involvement of one apex and the other base does not appear to be a fatal form of double pneumonia, apart from complications. The mortality of uncomplicated apical disease in the child is almost *nil*. Delirium is not an unfavorable prognostic symptom at any age. Intemperance and hyperpyrexia do not increase the relative mortality at the apex. Pericarditis is a fatal complication, and Bright's disease and bronchitis render the prognosis much graver. Delirium is not a more frequent or marked symptom in apex cases in the adult, and seems to occur more often in cases with complications than in the basal form. Intemperance, which is the chief cause of this symptom, does not seem to increase its relative frequency at the apex. There is no positive evidence that delirium is more frequent or prominent in the young with apical pneumonia. Cases of apex pneumonia, even in the adult, sometimes assume the mildest symptomatology.

Bacteriology of Cerebrospinal Meningitis.

In ten cases of meningitis, in which bacteriological examinations were made by A. W. Nuthall and W. Hunter (*British Medical Journal*, Sept. 21, 1901), a diplococcus was isolated from the cerebrospinal fluid obtained by lumbar puncture during life. This diplococcus agreed in its morphological and biological characteristics with the diplococcus intracellularis meningitidis of Weichselbaum. It occurred in two slightly different forms. In some cases the diplococcus was present in pure culture, in others associated with other microorganisms—for example, bacillus influenzæ and bacillus tuberculosis. The clinical picture and pathological changes found in these cases were those met with in posterior basal meningitis. The writers think that in all probability posterior basal meningitis is a sporadic form of cerebrospinal meningitis, and is caused by the same microorganism—the diplococcus intracellularis meningitidis of Weichselbaum. In the majority of the cases it was impossible, from the clinical aspect alone, to make a correct diagnosis of the variety of meningitis present.

Tuberculous Meningitis in Cases of Tuberculosis of the Male Generative Organs.

Simmonds, of Hamburg (*Münch. Med. Woch.*, No. 19, 1901), was surprised to note in reviewing statistics the frequency with which tubercular meningitis followed tuberculosis of the genital

organs in men, especially those tuberculous processes in which there was caseation in the prostate and seminal vesicles. Among sixty cases there were nineteen deaths from meningitis, almost a third of the whole number, while in pulmonary consumption scarcely five per cent die of tubercular meningitis.

As an explanation of this close connection between genital tuberculosis and meningitis the author advances the idea that this relationship occurs only in cases beyond the age of puberty, and is absent in childhood. Secondly, he observed that persons affected with genital tuberculosis became ill with meningitis soon after marriage. This might be explained by the fact that sexual intercourse caused increased congestion of the genital organs, which might excite to pathologic activity latent pathogenic germs.

At any rate, these observations may furnish useful suggestions in the diagnosis of doubtful cases of acute brain affections in men.

Experimental Dysentery in Dogs.

Harris (*Proc. Pathol. Soc. Philadelphia,* June, 1901) has succeeded in producing typical dysenteric symptoms in puppies by injection into the large intestines of fresh feces of individuals suffering from the disease. On the other hand, he has had no positive results with injections of mixed bacteria grown from the feces of individuals suffering from dysentery, or with cultures of the bacillus dysenteriæ of Shiga. Attempts to cultivate amebæ were unsuccessful. Kartulis is the only writer who claims to have cultivated amebæ from dysenteric stools, and he also states that by these cultures he produced typical symptoms in three cats. In microscopic sections from the intestinal lesions in puppies Harris found amebæ abundantly present in and around the ulcers. As the cultures of bacteriæ obtained from the stools produced no effect it is reasonable to suppose that in the type of dysentery experimented with a bacterium is not the cause of the disease; on the other hand, the amebæ were present in the feces and also in the experimental lesions, while they were absent from the cultures; it seems clear that the latter are the causative agents. In a discussion following the paper Flexner distinguished acute dysentery, which is due to the activity of the bacillus dysenteriæ of Shiga, from chronic dysentery, in which the history of an acute onset was wanting. It is in the latter class of cases that amebæ are often found in the dejecta. His own experiments and those of Kruse and others had convinced him that the bacillus of Shiga is the cause of acute dysentery of hot climates.

Therapeutics of Pruritus Vulvae.

Sieburg (*Centralbl. f. Gynäk.*, Oct. 26, 1901) says that pruritus is a secondary disease kept up by constant scratching and rubbing, and that in general he regulates the diet and forbids alcohol and spices. He recommends daily exercise and enough of it to induce a sense of fatigue and need for sleep. Morning and evening the patient should wash for about five minutes with soap and cold water, and through the day after each evacuation of the bladder. Carbolic washing is useful. An ointment is also recommended composed as follows: Cocaine 2.0, orthoform 1.5, menthol 0.5, carbolic acid 1.0, vaselin 20.0; to be used whether there is abrasion of the mucous surface or skin or not. Patients should always have their ointment at hand, so that they may never be without the means of relief, and be therefore driven to relief by scratching. The fissures are best treated by painting with a ten-per-cent solution of silver nitrate, after which they heal rapidly. In the evening a strip of gauze, spread with the above named ointment, is placed over the affected parts, and over this a thick pad of wadding, and kept in position by a T-bandage firmly put on. The pressure gives relief, and the patient cannot well get under the parts to scratch. If the disease has become chronic, and the skin is intact, Sieburg uses the following mixture: Spir. rusci 50.0, acid salicyl. 0.5, resorcin 1.0, painted on after the usual washings. Along with the above the author has also used subcutaneous injections, first of all with weak solutions of cocaine and carbolic acid; since then he has learned that the effect is due not so much to any particular drug as to the quantity of fluid injected, and he now injects up to a third of a liter of physiological solution.

Treatment of Habitual Constipation.

S. A. Knopf (*New York Medical Journal*, Oct. 26, 1901) says that when one is first called to see a patient suffering from habitual constipation who has not had a free movement of the bowels for some time, there is, of course, but one thing to do—to produce a thorough evacuation of the bowels. In the writer's experience nothing has rendered more valuable service in such cases than the administration of calomel in fractional doses. Of mechanical means to overcome chronic constipation, the best are walking and deep breathing in the open air, but never when tired or to the extent of becoming tired; also alternate contraction and relaxa-

tion of the diaphragm. All outdoor sports, calisthenics, gymnastics, etc., when not to excess, are most commendable. Next in importance comes massage as a passive exercise—circular friction and moderate kneading around the umbilicus from right to left, followed by the same movements with somewhat increased vigor along the ascending, transverse, and descending colon. As practical mechanical means to overcome chronic constipation, the occasional use of a rectal glycerin suppository should be mentioned. Of hydrotherapeutic means to overcome chronic constipation, we have a choice of internal and external measures. Enemata of hot water should not be used as a routine treatment to overcome chronic constipation. Externally, cold water compresses over the abdomen at bedtime, and gentle abdominal douches of either cold or alternately cold and hot water, morning and evening, often tend to revive the lost muscular action of the small and large intestine. Electricity may be applied in some cases with advantage and good results be looked for. Under dietetic treatment should be understood the use of more liquids, more vegetables, more fruits—in short, a proper selection of such articles of food as are rather laxative than constipating in their action. The habitually constipated patient should avoid all alcoholic drinks, also chocolate, tea, strong coffee, and milk.

Invigoration of Neurons in Hemiplegia.

L. G. Guthrie (*Lancet,* Oct. 19, 1901) says that neglect and want of treatment aggravate severe and retard the recovery of mild cases. The evils to be foreseen and guarded against are articular adhesions, late rigidity, and muscular atrophy. Articular adhesions should be prevented by passive movements of each joint from the very first. Faulty positions of the limbs should be constantly corrected or they will become chronic. Contraction of muscles should be prevented by endeavors to improve the nutrition of their weaker opponents. Massage, passive movements, and to a less extent electricity, should be used with this object. These agents not only counteract muscular atrophy from disuse, but probably take the place of normal stimuli and invigorate the neurons. The recovery of mild cases may be often hastened by reeducation of movements. Want of reeducation frequently prevents recovery. Reeducation consists in a combination of passive and active exercises. Movements should be first encouraged in those parts which naturally tend to recover first. Incoordination and general weakness of limbs which have yet retained power of movement should be treated by exercises and mechanical thera-

peutics. It is important to find out what the patient can do and make him do it. In conclusion the author says that the treatment of hemiplegia should be followed as a condition without reference to its cause, for whether the cause be hemorrhage or occlusion of cerebral vessels by embolism or thrombosis is immaterial. The principles of treatment will be the same and need not interfere with other measures taken for the relief of the disease which gives rise to the hemiplegia.

Gout and Goutiness and Their Remedies.

The treatment of gout is divided by David Walsh (*Medical Press,* Oct. 16, 1901) under three headings: (1) Drugs; (2) general hygiene, exercise, diet, water, etc.; (3) baths, massage, superheated air, and other external therapeutics. He says that the most valuable drug during an acute attack of gout is undoubtedly colchicum. It is usually combined with sulphate of magnesia, and its efficacy appears to be increased by the addition of guaiacum. Free purging with blue pill and saline aperients, such as Hunyadi Janos, or other laxatives, is a very essential measure. Between the attacks of acute gout, and in the chronic and irregular states, the best drugs are sodium salicylate, iodide of potassium, and guaiacum. General hygiene forms one of the most important points in the treatment of the gouty. The patient should take daily exercise, as far as possible, in the open air. The value of the Turkish bath has long been recognized in the treatment of the gouty condition; so also has the value of a course of systematic bathing and massage at some suitable watering-place, where the life is simple and plain. The therapeutics of gout, says the author, have made a solid advance since the use of superheated air was invented some ten years ago. In chronic and in inveterate cases the benefit is striking: movements of joints are restored, and uratic deposits and bursal swellings often disappear rapidly. There can be no doubt that heat applied according to this method has curative results in gout that cannot be equaled or even approached by other plans of treatment.

To Treat Inoperable Cancer.

A. Cooper (*Lancet,* Oct. 12, 1901) draws the following conclusions:

1. That in cases of inoperable sarcoma, more especially the spindle-cell variety, the patient should have the option of Coley's fluid given to him, since a certain number of cases have been cured.

2. That in cases of inoperable cancer of the breast in women of about forty years of age in whom the menopause has not occurred the operation of oophorectomy should be proposed, and this treatment may be combined with thyroid feeding.

3. That in cases of inoperable rodent ulcer and in the superficial malignant ulceration in other parts the Roentgen rays give a good hope of improvement.

4. That in cases where these other methods are declined or are inapplicable the internal administration of celandine is worthy of trial, and when the case appears quite hopeless morphine should be pushed without hesitation.

5. Finally, that before trying any of these remedies the risk should be fully pointed out to the patient, that the faint hope that most of them afford should not be magnified, and that the discomfort of treatment should be fully discussed; in fact, the surgeon should not do more than offer the treatment and leave the person to accept or receive it.

RHINOLOGY AND LARYNGOLOGY.

UNDER THE DIRECTION OF WADSWORTH WARREN, M.D.

Report of a Case of Aortic Aneurism.

Before the Laryngological Society of Berlin (*Internat. Centralbl. f. Laryngol.*, vol. xvii, No. 9), Landgraf reported a case of aortic aneurism, in which the history is somewhat unusual. In the spring of 1898 the patient was seized with a cough, which after a few days disappeared. Following the cough there was shortness of breath, and the patient had vertigo and palpitation of the heart. In midsummer of that year the patient suddenly became hoarse, the hoarseness increasing after the use of the voice. Over the thorax one could hear whistling and rattling, the apex beat in the sixth intercostal space, dulness over the sternum, and to a fingerbreadth on either side, with pulsation. The left radial pulse was scarcely perceptible. The same condition prevailed in the pulse of the left subclavian and the left temporal. The case presented the typical signs of an aortic aneurism with left-sided paralysis of the recurrent nerve. From the middle of September on, under the application of rest, iodide of sodium, and electricity, the voice became from day to day better. On the 26th of September, after drawing an unusually deep breath, the patient experienced a sense of pain in the breast, and on the next day had no embarrassment of respiration because

through the deep breathing the trachea had been freed from the pressure of the aneurism. On October 8 the vocal cord stood near the median line. On November 6 it was freely movable. Since that time the patient has been well. It has been known for a long time that pressure symptoms of recurrent nerve may disappear, and a paralysis of the nerve be recovered from.

Kuttner observed a patient with aneurism and left-sided posticus paralysis in whom within fourteen days the vocal cord became movable.

Treatment of Chronic Diffuse Nasal Hypertrophies with Submucous Injections of Chloride of Zinc.

Viollet, of Paris (*Archiv Inter. de Laryn.*, etc., vol. 14, No. 2), reports at length upon a series of cases. He states that cases in which through chronic swelling of the mucous membrane of the lower turbinated body a complete closure of the respiratory portion of the corresponding nasal passage has occurred are suitable for this procedure, which the author describes as a sclerogenetic process. For this procedure the real turbinated hypertrophies through diminished resistance of the tumor, those where the mucous membrane has a regular, smooth appearance, and through their tendency to increase and diminish in size cause much interference wth nasal respiration, can also be treated profitably in this manner. After a local anesthetization with cocaine of the affected tissue of the turbinate, the author injected four to five drops of a ten-per-cent solution of chloride of zinc with a Pravaz syringe, this procedure being repeated in from one to four weeks later. In over half of his cases the author reported very good results.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,

Lecturer on Dermatology, Detroit College of Medicine.

On the Nature of the Disease Known as Erythema Induratum Scrofulosorum.

At the last meeting of the British Medical Association, in the Dermatological Section (reported in the *British Journal of Dermatology*, October, 1901), Dr. Whitfield in a paper on the above subject pointed out that though Bazin in his original description had assigned the disease to tuberculosis, there had been since his time considerable difference of opinion as to whether it was in reality a

tuberculous affection or not. He then gave a short review of the published cases in which experimental and histological examinations had been carried out, with a view to determining the nature of the disease. This review showed that, with one exception, those cases which had yielded results by inoculation and histological examination suggestive of the tubercular nature had occurred in patients of the female sex under the age of twenty-five, whereas those cases, also with one exception, in which there had been no evidence that the disease was in any way associated with tuberculosis had been in women over thirty. Notes were then given of two cases in which histological and experimental examination had been carried out. In the first the patient was a girl, aged fourteen years, who had suffered from the disease for a little over a month. Although taken into hospital the ulceration healed slowly, and the nodes which had not broken down subsided only very slowly. Histological examination showed a structure very typical of tubercle, but inoculation gave negative results.

The second case was a woman aged thirty-seven, in whom there was definite evidence of circulatory weakness. The nodes in this case had not ulcerated, but were on the point of doing so in one place. They showed also a strong tendency to occur along the course of the large vein of the leg, though this arrangement was not invariable. Pain was a much more marked feature in this case than in the previous one, and there was some apparent increase in the size of the nodes on standing up. Excised nodules showed no granuloma at all, but merely a phlebitis of the small venules, beginning apparently in the adventitia. There was no affection of the arteries, and there was no marked evidence of endothelial proliferation in the affected veins.

This was of importance, as in many cases of the disease marked endophlebitis had been observed even where the general structure was that of tubercle, and in Dr. Whitfield's first case there were a good many instances of small veins entirely obliterated by endothelial proliferation.

The progress of the second case to recovery was much more rapid than that of the first, a week's rest being sufficient to clear up almost all the lesions.

On these grounds he would put forward the theory that there were at least two diseases grouped together generally under the same name, one being of a tubercular nature, occurring almost entirely in young girls, being almost painless until ulceration occurred, and proving somewhat resistant to treatment, the other occurring in middle-aged women of poor circulation, being much more painful, much more amenable to treatment, and having nothing to do with the tubercular process.

NEUROLOGY.

UNDER THE DIRECTION OF CHARLES W. HITCHCOCK, M.D., DETROIT, MICH.,

Attending Neurologist to Harper Hospital.

The Treatment of Neurasthenia.

American Medicine of August 31, 1901, contains an article on the above subject by W. Blair Stewart, who advises the elimination first of true hysteria and insanity, and the recognition of a functional condition due to some particular cause. A thorough physical, mental, and antecedent study of the case is essential. We should not speak doubtfully nor try to shame away symptoms, but be kindly and patient. Reassurance often does much. Possibilities of reflex irritation as an underlying cause are many and not to be neglected. Menstrual and climacteric difficulties are frequent causes in women; sexual disorders in men. The sexual pervert and the society "rounder" are often troublesome cases. Of the physical methods, rest and exercise are all-important. The Weir Mitchell "rest cure," in full or modified, is of value. Massage and electricity are important adjuncts. The feeding is to be carefully looked after, and food administered at short intervals. Bathing may be overdone. The tepid bath on alternate days is of frequent value. The alternate hot and cold spinal douche is often helpful. Equable are better than hot climates. The crowded seasons at fashionable resorts are to be avoided. The hypnotic crutch so frequently leaned on by those patients it is well to gradually discard. Hot foot-baths, and a cup of hot milk before retiring, are often better in the end by far than a regular hypnotic.

The Etiology of Paretic Dementia.

F. P. Norbury (*Journal of the American Medical Association*, Sept. 28, 1901) calls attention to the pathology of paretic dementia, citing that it is a diffuse parenchymatous atrophy of nerve-cells and part, at least, of the neuralgia, essentially a chronic process, ending eventually in profound degenerative changes.

He emphasizes the importance of syphilis as the one primary factor, more conspicuous than any other one agency in its causal relation, although distinctly claiming that it is *per se* not a syphilitic but a parasyphilitic disease. He reaches the following conclusions:

1. Syphilis is the factor in chief which causes paretic dementia.
2. Infectious forms with their toxic influences are contributing etiological factors.
3. Heredity is a patent factor.

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ORIGINAL CONTRIBUTIONS.

THE SHIP'S SURGEON'S INFILTRATION ANESTHESIA.

BY HAL C. WYMAN, M.D.,

Professor of Surgery, Michigan College of Medicine and Surgery, Detroit.

A transatlantic liner may carry several hundred passengers. They will be classified according to the fare they pay, into first, second, and third class. The owners of the vessel employ a doctor to look after the health of the passengers. He travels with the ship, has comfortable quarters, and eats at the first table with the people who pay the biggest fare. On a German ship he must have passed the state examination, to prove that he is qualified to act as a physician, before he can be employed; and before he can have that examination he must have studied medicine and passed several examinations during several years.

As a result a ship's passengers are in fairly good hands in case sickness occurs. The doctor has at his disposal in case of serious illness a series of staterooms in the quietest part of the ship, each containing from three to five berths, which can be used as a hospital by either crew or passengers. In case the illness should be contagious, like smallpox or yellow fever, the rooms and berths occupied by such cases are so arranged that they can be completely isolated from all the draughts and currents of the ship and no other persons can be endangered. This plan works well, and aids the doctor in handling a ship and cargo when he reaches a quarantine station, where an American health officer comes on board to inspect the passengers and ascertain their fitness to land. The United States is very particular about the health of all persons who would find a home upon its soil. No broken-down and incurable persons can be admitted; no insane persons are allowed. Very strict regulations have to be observed by all vessels plying between

the United States and foreign ports, and the ship's doctor naturally has a great deal to do with them. If he errs and permits a lunatic from a foreign port to land in an American port, and the fact is discovered, then the vessel on which he is employed will have to carry the insane person back to the port from which he came.

But that is not all this important member of the ship's company has to do. On the great ocean liners an army of mechanics and stokers are employed. They have to work in very high temperatures, for the great furnaces, boilers, and engines radiate heat at an appalling rate (no one has discovered a good insulating material for heat, as is now employed for electricity). The poor workmen are often prostrated and demand the doctor's immediate attention. Among the stokers are usually a number of men whose hands have not been accustomed to the heavy use of the shovel and other tools with which their labors are performed, and blisters and abrasions and infections are incurred which the doctor must treat promptly and in the best manner, or the ship will have an ugly hospital bill to pay when she reaches port. For it appears to be the custom on German ships to send all sick and disabled men to hospital at the ship's expense. In the meantime the hospital quarters on the ship are thoroughly cleaned and disinfected while she is in port.

Passengers and crew often require the doctor's services for a variety of surgical ills. Sometimes it is a strangulated hernia that requires operation, sometimes a belated bubo needs opening. Perhaps here, if nowhere else, there is need for some good local anesthetic. I was surprised to hear that "Schleich's infiltration anesthesia possessed such a wide range of usefulness and met so compeletely the needs of a ship's surgeon. Schleich himself says (Shmerzlose Operationen, Berlin, 1898) that ninety per cent of all operations can be done by his method, that it is absolutely free from danger, while about one in every 2000 anesthesias is fatal in Germany. The essence of the method consists in making the parts to be incised edematous by infiltrating the true skin (deep layer) with a solution containing:

℞ Cocaine muriate ..... gr. ij.
Morphine sulph ..... gr. ss.
Chloride of sodium ..... gr. x.
Distilled water ..... ℥ iv.

M. Sterilize. Sig.: Use with a hypodermic needle.

Now comes the point of the process. The solution must be injected into the true skin a few drops at a time and in one spot, until a white edematous wheal develops. Then the needle may be withdrawn and reinserted in the painless margin of the wheal, and the solution again injected until another wheal is made. Proceeding thus an area may be prepared long enough for the incision of hernia,

or larger if need be. The limit of its usefulness would appear to be measured by the fact that the anesthesia only lasts about twenty minutes, and any operation that will require more time than that had better be performed under general systemic anesthesia.

One thing about this matter Michigan surgeons should not forget, and that is that the boiler-room patients may not be very sensitive to pain; and that while they endure the numberless painless pricks of the Schleich infiltration method, they might just as well, and without great suffering, endure a quick and clean operation with a knife.

A FEW DON'TS.

BY FRED'K W. ROBBINS, A.M., M.D.

When your committee asked me to prepare a paper for this meeting I selected the above title, not in a spirit of criticism of my fellow practitioners, for they are as well if not better able to say "don't" to me as I to them, but because the ever extending knowledge of our science is ever and anon impressing us with the fact that we are continually doing things that we ought not to do, and leaving undone things that we ought to have done. The advance in knowledge of urethral pathology has been such that to one not having devoted his time during the last ten or even five years to its study modern diagnosis is an impossibility and successful treatment a matter of luck.

Some years ago one of our now successful specialists said to me he was glad that the adoption of his specialty allowed him to refuse treatment of all urethral diseases, for he could not remember ever having cured one. What this *confrère* frankly admitted has probably been the experience of many another, and at this point I wish to enter two "don'ts:" first, don't be pessimistic; and secondly, don't be too optimistic. The man who honestly believes that no cases of gonorrhea recover should not treat urethral disease any more than should a man care for a woman with cancer of the breast who believes all such cases inoperable. That many men do hold this position, and with some reason, there can be no doubt. When a patient becomes absolutely sterile following a gonorrhea; when after several years of seeming perfect health a man is afflicted with a prostatic abscess which contains gonococci; when a patient for years after all urethral discharge has disappeared has frequent emissions due to a chronic prostatitis; when another has a slight temporary discharge every year or two, never having known such

a condition before the well remembered first infection; when one thinks of such and similar conditions he may easily be led into the pessimistic attitude. Many such cases in the light of modern methods of research and treatment may, I believe, be permanently cured; it may be in a month, six months, or a year—no matter how long the time, providing we are on the right track and can see gradual improvement. Whether the optimist or pessimist is most to be shunned I hardly know, but he who lightly prescribes for a patient with acute urethritis as he would for one with a cold makes a great mistake—not so much because he fails to do what might be done for his patient, but because he destroys his confidence in our profession. The patient therefore neglects himself, is uncured, and in great danger himself, while at the same time a source of danger to the community in which he lives. Many such patients have come under my care with a chronic disease requiring long treatment who might have been saved such trouble had not the first doctor been carelessly optimistic.

As to acute gonorrhea, I wish again to say emphatically, don't use injections. Are they employed? Yes. Are they mentioned in nearly all text-books among the accepted methods of treatment? Yes. Do they do any good? No. If you whose plan it is to order an injection of anything you please—silver, mercury, injection Brou, etc., etc.—will recall to mind the cases in which good results have followed such measures, you will be astonished at the number of useless prescriptions you have written. Some may say that it is well enough to give a cleansing injection several times a day, as it can do no harm. Don't forget that a patient passing urine six times a day irrigates the urethra much more perfectly than you can do with a little squirt-gun, and in the proper direction. Does he cure his gonorrhea thereby? No. No more can you with any injection. Is it true that injections do no harm? In many cases, carefully given, they do no harm, but there are many other cases where this cannot be said. Then avoid the danger and don't use them. I have done harm with them, never any good.

Having made this suggestion, we pass to some don'ts in connection with that more interesting condition, chronic urethritis. And to begin, don't treat a case of chronic urethritis, often called gleet, without first knowing what the pathology is, and don't hurt the patient in making the diagnosis; it is not necessary. In May, 1899, a patient came to me, having been treated by one druggist and four doctors, for periods varying from two weeks to six months each. The physician with whom he remained six months passed large sounds on this patient, when the pain was so great that chloroform was administered, and this operation was

repeated nine times. With a stretch of the imagination we may admit that the surgeon was excusable in resorting to such methods once, if he was trying to make a diagnosis and knew no better way; but to think of a reputable physician thus maltreating any poor unfortunate piece of humanity even if he has got the clap makes one's blood boil with indignation. And I here pay my respects to him. Better had it been for this patient if he had never seen a doctor or taken a drug, although he finally completely recovered from his chronic urethritis, cystitis, and pyelitis.

Another patient presented himself during the writing of this paper who had had no treatment since April, although suffering from soft infiltration of the anterior urethra with a urine thick with pus. No man could be in greater need of scientific care, and yet he had neglected himself simply because he had attempted treatment at the hands of competent men who had caused so much pain that he dreaded treatment more than he did the disease. Such cases are continually being observed.

In the care of urethral diseases the motto should ever be, don't cause pain. Pain moreover reflexly causes contraction of the compressor urethræ muscle as well as of muscular fibers surrounding the anterior urethra, thus preventing sometimes correct conclusions as to the condition present. Then, again, it is only by the most careful handling of instruments that the finger-tips can be educated to feel conditions at their distal extremity.

Some I am assured are accustomed to treat a case of chronic urethritis by passing sounds as large as can be introduced; others give injections of one kind and then another until for a short time all discharge and distress have ceased, and then the patient is told he is all right, but assured that the trouble may return if the patient goes to excess in Bacchus or venery. A cowardly makeshift that. Better tell your patient to drink all the beer he desires, if you believe him well, showing the courage of your convictions. Don't fear relapses. If the germs are still present that cause relapses we want to know it, so that we may attack them, instead of leaving them securely housed to later do, it may be, irreparable damage to some innocent victim.

In the examination and treatment of the urethra I would say not only do not hurt your patient, but also do not cause bleeding; it does not look well. Patients say that they have been butchered by the physician previously in attendance. Bulb bougies, not sounds, must be used in making a diagnosis, and large numbers are not usually necessary. Force is just what should not be used. On the other hand, don't be ready to criticize yourself or a friend because in making a urethral examination bleeding has resulted. No force having been employed and proper instruments used, neverthe-

less bleeding may follow unavoidably from granulating surfaces or broken polyps. This often occurs, and no bad results follow. But we often tear through the mucous membrane down into the submucous tissue, by passing too large instruments or dilating too rapidly. Our intention is good; we feel for the patient and desire to cure him quickly and do too much, forgetting that haste makes waste. Only moderate pressure is desirable in the treatment of stricture or urethral infiltration.

Don't think for a moment that correct inferences can be drawn from an examination according to one method. For example, after a patient has urinated in two or three glasses the surgeon, drawing certain aid therefrom, passes the bougie à boule and thus completes his examination, deciding that the patient has stricture or soft infiltration; or not having discovered any resistance when withdrawing the bulb concludes that there is a catarrhal condition of the mucous membrane and has a more or less definite idea of its location. Both of these methods of examination are of great value, but one cannot trust to them alone. Experience in microscopic work has taught me that there may be marked urethral infiltration and it not be detected by the bulb. Many glandular infiltrations cannot be so discovered, and if the glands of Littre or Morgagnian crypts are the foci of disease and remain *terra incognita* to the operator, he may treat his patient with chronic urethritis for months and produce no certain curative effect. It not seldom happens that the urethroscope reveals unusual conditions, as for example urethral polyps. I have seen them nearly an inch long, looking like angleworms, and again raised not more than a line above the urethral surface. They, however, are not common. Sometimes one will discover a side pocket, as large as the urethra itself, in cases that have never been subjected to instrumentation; and again, what seems to be a pocket may simply be a rupture, and through either entrance one may pass a sound into the bladder.

There is one other condition that I have seen and desire to mention in order if possible to have the cases cleared up in my own mind. With the bulb also by direct inspection I have found in patients never diseased a very narrow but well marked linea stricture of large caliber. The question that I would have you solve is: are such linea strictures due to lacerations of the mucous membrane caused by the passage of uric acid or other crystals in early life, or are they true congenital malformations?

If the meatus is small, preventing careful exploration, don't be afraid to cut it. Many of those who use the Otis urethrometer think that with it one can make a diagnosis through a comparatively small meatus. One cannot discover abnormalities in the urethral wall with a firm instrument like the urethrometer with

anything like the precision that he can with the flexible bougie à boule. Then, again, the surgeon, thinking not to mutilate a man by enlarging the meatus, destroys his opportunity of gaining valuable information by use of the urethroscope. So often have I demonstrated the value of this additional information that I do not hesitate to emphasize the suggestion—Don't be afraid to cut the meatus.

In those cases where gradual dilatation is essential it would seem unnecessary to utter the caution—don't dilate too often. Yet I know that in one's anxiety to quickly benefit a patient there is a tendency to interfere with the urethra too much or too often. Patients have come to me where I felt satisfied that they were being injured, not helped, by too frequent instrumentation. It is a good rule to pass a sound or dilate the urethra from once in five to once in fifteen days. Dilatation that is not sufficient to produce a reaction is valueless, and all reactionary congestion must have disappeared before the treatment be repeated. The occasions where recovery is hastened by dilating the urethra oftener than once in five days are very few.

Time is too short to discuss stricture of the urethra at all in detail, but I wish to call attention for a moment to the fact that, influenced by European teaching, American surgeons are now dilating strictures and curing many of those that a few years ago would have been subjected to the knife. That urethrotomy is often the best way of treating many cases, and the only way of treating some, I would not for a moment deny, but I wish to say, don't forget that an incision into the urethra leaves a scar. As a result of such scar tissue there may be irritation, diapedesis of white blood cells, and thus a urethral discharge not accompanied with bacteria that is a sterile gleet. Often after indulgence in alcoholics, patients appear with a discharge, and no pathologic condition be observed other than a white linea scar fringed with inflamed mucous membrane.

Don't overlook prostatic disease. This gland is particularly subject to inflammation. It has many ducts into which may enter germs from without, and is well supplied with blood-vessels which can carry infection from within. Prostatic congestion caused by horseback or bicycle riding, jolting over rough roads when driving, or sitting on cold stones, etc., is the first step toward a prostatitis; the second is the infection germ. Venereal disease may be a factor, but the virtuous are not exempt. In some cases there is a feeling of irritation referred to the bladder, a more or less frequent desire to void urine, and occasionally a slight discharge from the urethra. The urine may be slightly turbid or prefectly clear. The patient may pass a small amount of clear

urine, be massaged, and then pass urine mixed with purulent prostatic fluid. When such conditions are not cured the patient is liable to deeper seated inflammation of the parenchyma even to the extent of abscess formation. It is to prevent such results that we should be on the alert. When there is a possibility of prostatitis the gland should be frequently explored through the rectum. In many of our text-books it seems to be taken for granted that abscesses of the prostate are not discoverable until they break into the urethra, rectum, or through the capsule into the perineum, where after a time there may be noticed a swelling, from which after delay and local application foul-smelling pus may be evacuated. After a time these patients get well, but at the expense of much time, pain, and tissue loss.

Prostatic tissue should not be destroyed by pressure necrosis. Fluctuation should be early discovered, and a small abscess opened through the rectum. These cases are not so very common, but sufficiently so to be kept in mind. I have relieved a number of cases by operation, and I believe prevented the necessity of operation several times by early recognition of the condition present.

Finally, don't discharge a curable patient until he is cured. This will be taken as referring to urethral diseases especially, for in these as in no other class of cases do the welfare and happiness of innocent individuals and families depend upon the good judgment and careful consideration of the physician. The tendency of us all is to be lazy, and it is easy after having treated a patient for some time, the discharge and morning drop having ceased, to declare him well. It is a strain upon our reputation to admit to the patient after three weeks of attention, when he is feeling perfectly well, that we do not yet consider him a safe member of society. The laity and many physicians have not been sufficiently educated as yet on this matter. The welfare of man and womankind demands that the physician shall not be lazy or careless when called upon to deal with this subject in a practical way.

When may a patient be declared practically recovered from a contagious urethral inflammation? Without saying he must be free from discharge. The first urine passed in the morning must be clear, at least it must not contain pus cells. We are better pleased if in the clear urine there are no floaters, but it is by no means always necessary to a practical cure that all shreds must be absent. If they are present, however, it is wise to place the patient on the beer test. This having proved negative, an injection of silver nitrate should be given, and the discharge so produced be carefully examined for gonococci. Of course, this precaution is taken providing no gonococci are found in the original shred.

In parenthesis, don't become conceited as to your ability to

discover the germs. It is easy to mistake them or miss them, or to give to harmless diplococci a bad name.

Finally, not having discovered a gonococcus, with the little shred you may make a culture on blood serum and agar; if then no growth is produced containing diplococci responding to the Gram test, you may with reasonable assurance say to your unfortunate friend: "Go in peace."

TREATMENT OF THE EYE BY THE GENERAL PRACTITIONER.*

BY GEORGE H. GORHAM, M.D., BELLOWS FALLS, VT.

There is probably no organ of the body that the general practitioner is better qualified to treat than the eye. There is hardly a disease or condition to which flesh is heir but what he is ready to give advice and treatment. But when the visual organ is affected, he at once loses confidence in himself, and very frequently tells his patient that he knows nothing about the eye. I think that this is a wrong condition for the medical man to be in. It is an injustice to your patients not to be able to correctly diagnose the common diseases of the eye and to properly treat many of them. Ophthalmology is not a separate science, but simply one branch of medical knowledge. You certainly should be able to early recognize the dangerous diseases, and if you did not feel qualified to treat them, the patient could be quickly sent to an oculist.

There are in the United States, according to the census of 1890, over 50,000 persons who are totally blind, and, I am sorry to say, Vermont has the highest ratio of any State in the Union. It is generally conceded that forty per cent of all cases of blindness could have been prevented by proper treatment. You will, therefore, see the great responsibility which rests upon you to properly care for these patients in the first stages, as you are, in the great majority of cases, the first to see them.

We are becoming more and more impressed every year with the importance of preventive medicine. This will apply in a large degree to diseases of the eye. You have all heard undoubtedly of the Credé method of treating the eye of the new-born child with a strong solution of nitrate of silver, but I presume that only a very few present have practiced it.

At the time that Credé originated this method ten per cent of all cases in his lying-in hospital were afflicted with ophthalmia neonatorum; at present there are only 0.02 per cent. I do not

*Read at the Vermont State Medical Society.

think that it is necessary in most instances to follow this treatment, but I see cases of purulent ophthalmia often enough to think that the attending physician should use the silver solution in all cases that are in the least suspicious. A one-per-cent solution is generally strong enough. Washing the eye with a 1 :5000 bichloride solution is also good, or even a saline solution. Remember that over one-fourth of all cases of blindness in the civilized world are due to this disease. Quite a number of the States and countries have passed laws fining any midwife, or attendant, who neglects to properly report any suspicious cases of red or inflamed eyes in the new-born infant. Vermont has neglected to do so.

I would next call your attention to the hygiene of the eye, especially in reference to the school life of children. I would advise the examination of the eyes of all children at the time that they first entered upon their school work. This could be done by the superintendent. All children whose distant vision did not reach a certain standard and whose near point was abnormal, or who had inflamed eyes or lids, should be sent home with a note to their parents advising them to consult their family physician, or an oculist, at once. In Munich they make three or four examinations a year at regular intervals with beneficial results, the standard of vision constantly rising. In the past but very little attention has been paid to the location of our school-houses or the amount of light per room, but in the modern structures this has been rectified.

It is during this period of life, the school age, that we see so many cases of asthenopia, or eye-strain. I consider the treatment of this condition one of the most important that is brought to your attention, for not only the immediate happiness and well-being of the patient is involved, but future generations are liable to be affected.

Every person at birth is hypermetropic, or far-sighted, but under the constant strain of civilized life a large number become astigmatic, and later myopic or near-sighted. A myopic eye, you must remember, is a diseased eye, and your endeavor should be to so guard and protect your young patients that they will not advance to this condition. This can be brought about by first looking after their hygienic surroundings, and secondarily by correcting all errors of refraction or eye-strain. By the present mode of instruction a child is under a constant strain with his eyes from the time he enters the first grade until he completes his education.

Is it any wonder that many suffer from asthenopia? These cases I should advise sending to a competent oculist, for a large majority can be relieved by properly fitted lenses. The busy physician has not the time to devote to it, even if he had had the

training to do it. By so doing, at the first symptoms manifested—pains through the eyes, headaches, and weakness of the eyes on study—you will not only be able in a large number of cases to give your patient relief from his symptoms, but will also prevent an advancement of his refractive error. Statistics compiled by both Risley and Oliver prove that if these cases are treated early it will prevent their development to a higher or more advanced condition. It is a positive fact that there are fewer cases of myopia to-day relatively than a generation ago, and the reason is that the children have had their low degrees of refraction properly treated.

The physicians of to-day are well aware that many of the functional disturbances of the nervous system are due to a strain on the ciliary muscle of the eye, or an unbalanced condition of the extrinsic muscles of the eyeball. I do not believe that even the proper correction of all abnormal conditions in the eye will cure every case of neurasthenia, epilepsy, or hysteria, but I do know that in very many of these cases you will give relief, and help in others. It is your duty to use and apply all forms of treatment that will be of help to your patient, and I certainly believe that the correction of all errors in refraction and placing the external muscles of the eye in equilibrium will go far toward it.

One of the most frequent conditions of the eye which you are called upon to treat is a foreign body upon the conjunctiva or cornea. I would urge upon you the importance of making a careful examination in such cases, as I have frequently found small particles upon the cornea, generally of a vegetable nature, which had remained there for some weeks. In a few cases sympathetic inflammation had already set in. In many of these cases a small tuft of cotton upon an applicator will easily remove the object; four-per-cent solution of cocaine to be used unless the patient has symptoms of glaucoma. I think that general practitioners, as a rule, use too strong solutions of the astringents for the different kinds and degrees of conjunctivitis. A one-grain-to-the-ounce solution of zinc sulphate will be more efficacious in many cases than one of two or three grains. The same will apply to silver solutions.

In acute conjunctivitis I very frequently use a tannic glycerin solution, about four grains of the former and one drachm of the latter to the ounce of aqua destillata.

Do not diagnose all chronic or subacute inflammations of the conjunctiva as granulated lids. It is a comparatively rare disease here in the country. The blue stone still has its advocates for this condition. I have used the strong tannic acid solution, nitrate of silver, and subconjunctival injections of bichloride of mercury

1 :1000. Whatever else you prescribe do not use poultices of any form except in some lid inflammations; they will simply congest the conjunctiva and make the inflammation worse. Hot boric acid solutions are nearly always permissible except in injuries and acute purulent ophthalmia, when cold applications and ice-bags are better.

In all inflammations of the cornea, especially any form of ulceration, use hot applications frequently repeated; at the same time prescribe atropine, two grains to the ounce. If you have a central corneal ulcer I should advise you to have your patient consult some oculist, as in many of these cases there is an opacity which is liable to permanently remain and obstruct vision. It is well to have some one else to share the responsibility with you.

I presume that in acute inflammations of the eye more mistakes have been made in diagnosis between conjunctivitis, iritis, and glaucoma than in all the other diseases of this organ combined. In some cases it is difficult to distinguish between them. You must remember that in conjunctivitis the superficial vessels only are dilated and injected, the pain is not severe, the cornea, pupil, and iris are in a normal condition, and the vision good except from occasional deposits of secretion. In iritis, on the other hand, the deeper blood-vessels are engorged with blood, the pain is generally sharp and severe, the pupil contracted, the iris of a muddy brown or greenish color, aqueous humor slightly turbid, vision somewhat impaired. Tension of the eye is normal in both diseases. In glaucoma the conjunctiva is deeply injected, of a dusky-red color; veins dilated; pain very severe through eyes and temples, anterior chamber shallow; partial anesthesia of the cornea, which has a cloudy appearance; pupil dilated, very marked; diminution of vision, and a pronounced increased tension of the eyeball.

Having these diagnostic points in mind it is not often that you will make a mistake in your diagnosis.

Hot applications and atropine are your sheet-anchor in iritis. Two grains to the ounce is usually sufficient, but do not be afraid to use four or even eight grains to the ounce for a short period, using constitutional treatment according to cause of the disease.

In cases of glaucoma I think that it is always advisable to consult an oculist. In most cases an iridectomy is demanded, although eserine is of temporary relief in some instances.

I think that every well equipped physician should become familiar enough with the use of the ophthalmoscope so that he could at least discover any gross changes which had taken place in the posterior eye. By so doing he would be able not only to treat

the constitutional disorders which are producing the eye symptoms, but in many cases he would send the patient to a specialist before injury had been done. Frequently we find an albuminuric retinitis when there have been no marked symptoms of kidney disease. Almost the first positive proof of tumor in the brain is seen in the choked disk of the optic nerve. The same will apply to atrophy of the optic nerve, indicating a serious spinal trouble, or toxic condition of the nervous system. If you have a patient who uses tobacco or spirituous liquors to excess and complains to you in regard to his vision, you should at once suspect atrophy of the nerve. He should have treatment as early as possible in order to preserve his vision, or at least part of it. As there are more cases of blindness due to nerve atrophy than any other cause, you should be on your guard against hastily treating a case of marked impairment of vision without first giving your patient an ophthalmoscopic examination, or having it done.

In regard to operations on the eye, I think that only exceptionally, and those of a minor nature, or in case of emergency, should these be attempted by a man doing general practice. He is not called upon frequently enough to have that fine technique which is required in many cases.

As I have before stated, errors of refraction and an unequal strength of the external muscles of the eye are the cause of many functional nervous troubles and reflex conditions. And, on the other hand, many constitutional diseases produce local ocular disturbances. In a strumous condition of the system we get styes, blepharitis, and phlyctenulæ; in rheumatism, iritis and choroiditis; in syphilis and tabes, paralysis of the external muscles of the eye and nerve atrophy.

Syphilis is the cause of three-fourths of all cases of atrophy and choroiditis, one-half of iritis, and one-third of ocular paresis. In chronic Bright's disease we have a retinitis, and in diphtheria a paralysis of the muscles.

I think that every practicing physician should have a set of Snellen's test types in his office, and be able to learn the visual acuity of his patients who complain of imperfect vision. I want to impress upon you that this test does not reveal to you whether he needs lenses to correct any error of refraction, or prisms to relieve strain. In many cases of asthenopia the patient has vision above normal. It will simply give you an idea as to his sight.

A subject which extends over as large a field as this cannot be covered by a paper limited in time. But I urge upon you the importance of making a more careful research and study of this subject. It will be a source of gratification to you and your patients, and I trust to future generations.

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

All communications regarding papers, reports, etc., should be addressed to the Editor of THE MEDICAL AGE, P. O. Box 484, Detroit, Mich.

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EDITORIAL ARTICLES.

A PREHISTORIC MENU.

The complex menu of a modern banquet with its variegated nomenclature and almost unlimited assortment of viands is frequently a glowing tribute to the wonderful progress of civilization along the line of gastronomic endeavor. Indeed, we do not always pause to consider the various steps through which the food we eat has reached its present state of delicacy.

An English microscopist, with a keenly investigative turn of mind, has recently pried open the jaws of prehistoric man, to determine the nature of that individual's daily bill of fare.

In some excavations made near Warminster there was found a mass of human remains. Mingled with these remains were roughly formed flint instruments, indicating that they belonged to the stone age; the only metal found being a small bronze ornament of primitive design. The lower jaw of a man was the chief object to afford an idea of the nature of the food in daily use. The teeth in this specimen were evidently innocent of the uses of the modern tooth-brush, being heavily covered by the salivary calculus, known as "tartar." The decalcification of this accumulation, and an examination of the sediment drop by drop under the microscope, led to some very interesting observations. The exact date of the banquet at which these food remains were collected is shrouded in mystery. It could hardly have been a Thanksgiving dinner, because the diner seems to have had so little for which to be grateful. It seems more reasonable to think that it was the early settlers' annual picnic. The guest of honor, whose remains furnish data for this paragraph, was undoubtedly a high and hard liver. This could be inferred from the fact that all his teeth were worn down at least half their length.

His menu seems to have consisted of four courses. About the

character of the first three there could be no doubt. The fourth course—a dessert—is shrouded in some mystery, but how often is this true of some of the dishes concocted in modern times.

The first course was a small fish, possibly a sardine served *au naturelle*. In fact, none of the food in use in those days was ever cooked, and the housekeeper was spared the annoyance of both chef and kitchen range. The fish was eaten *in toto*, the only anatomical remains found being one of its sharp-pointed teeth.

The next was a meat course, probably a Southdown lamb, but as only a small plate of cartilages was left to tell the tale, it must be in doubt whether this course was lamb or veal. With this course was served a preparation of raw meal, made by grinding dry corn between two pieces of quartzite rock, and sharp particles of quartzite, together with powdered silica from the teeth, were mingled with the débris of the meal. The guest doubtless ate this mixture with zest, and yet how often does the modern diner rebel at sand in the sugar and broken glass in the canned fruit.

The next course consisted of green corn, not only corn on the cob but on the husk as well, for the débris showed fibers of the husk and the minute hairs which cover it. With this course was served a fruit very like the apple, but not easily to be identified with the modern northern spy.

And lastly came the dessert, of which alone there remains for view only some small, ruby-colored, highly refractive bodies. This may have been crabapple jelly or cranberry pie. The heavy weight of our scientific knowledge strongly urges to the opinion that this repast was finished with a cranberry pie, plucked from the marshes in the adjacent neighborhood.

No after-dinner coffee to cheer the flagging circulation in the cold and clammy works of the diner. No Turkish cigarette to gently titillate to activity the fatigued peptic glands of the stomach. No creme de menthe, no high-ball to lend a glow to the sluggish brain. None of these; neither was there a waiter with a check, nor a hand outstretched for a tip. The diner had only to comb out with a dried fish's fin the crumbs left clinging to his abdominal beard; then lie down on mother earth with a stone for a pillow, and sleep, while his magnificent digestion got in its perfect work.

When we moderns pale before the railroad sandwich, when we shudder at the hash, when the coy biscuit has a specific gravity akin to lead, when the duck yieldeth not to the knife, when the cream is sour, let us not repine, but gird up our loins with a mustard plaster, and thank our fortunate stars that we were not obliged to wrestle with the prehistoric eating game in the bronze age.

EDITORIAL NOTES.

Is Gonorrhea Curable?

This is a question that has been very much discussed by the medical profession of late years. The finding of the germ of gonorrhea in so many uterine appendages that have been removed from women whose husbands are apparently free from any infection has led to the query whether a man, who has once had a gonorrhea, is ever entirely rid of the diplococcus.

At the last meeting of the American Medical Association a committee was appointed to obtain the opinions of the leading specialists of this country and Europe regarding the prognosis and treatment of gonorrhea in the male. Neisser, of Breslau, replied that he thought the disease curable in all properly treated cases, that cases of anterior specific urethritis were as a rule easily amenable to treatment, but that posterior urethritis, on account of its relative inaccessibility and the frequency of prostatic involvement as its accompaniment, was much more serious. Complete recovery could only be obtained through prolonged treatment and the giving of careful attention to the condition of the prostate gland.

Andry, of Toulouse, gives a favorable opinion, thinking all cases curable where the patient is willing to care for himself, as required, and as long a time as is necessary. Andry relies principally upon the lavage method of Janet.

Tommasoli, of Palermo, is of the opinion that gonorrhea is absolutely curable so far that the patient can be authorized to marry.

The answers received from American specialists were of a like character, all agreeing that a gonorrhea, if proper treatment has been followed, is curable.

The question which the general practitioner has so often to face is when is the disease cured. Patients will show absolutely no more of the usual symptoms, and still there may be lurking in folds of the urethra a few gonococci which may lie dormant for an indefinite period. Probably the only safe method of determining this question is the urine. If after repeated examinations the urine shows an absence of shreds, glandular or prostatic, or if the shreds are of so slight a character that they dissolve in a short time, then may the individual be pronounced thoroughly cured. This method ought always to be followed before advising a patient that his cure has been effected, but physicians will continue to encounter failure in the treatment of gonorrhea until such time as the laity have been educated up to the gravity of this affection. At present it is not regarded by them as a very serious affection. Progress can only be made by impressing upon each and every individual so affected what his future may be, and of the woes that may befall the woman he marries.

ITEMS AND NOTES.

A $60,000 addition will be built on St. Luke's Hospital, Denver.

A MEDICAL SOCIETY has been formed by the physicians of Manila.

THE University of Königsberg has closed its medical course to women.

THE constitutionality of the Iowa State law regarding osteopathy is on trial.

THE open-air treatment of tuberculosis has proved most effective in Germany.

SURGEON-GENERAL W. TAYLOR has been appointed director-general of the British Army Medical Service.

THE attendance at the University of Texas, medical department, has increased fifty per cent over last year.

MARCEL LEMCHI, of St. Petersburg, who is well known for his researches and discoveries in biological chemistry, is dead.

THE Chicago Pathological Society will hereafter publish its transactions in journal form in place of the annual transactions.

RECENT reports from Alaska show that the natives have sufferred a fearful loss of lives from last year's epidemic of smallpox.

THE Barker anatomical prize of twenty guineas has been awarded to Miss F. S. Dixon, a student of the Royal College in Ireland.

THE dental course of the University of Pennsylvania, beginning with the session of 1902-3, will be increased from three to four years.

THE street lamp-posts of Paris will be equipped with emergency boxes containing dressings for wounds and an alarm with which to summon an ambulance.

THE Vienna Academy of Science will award the von Baumgartner prize of 2000 kronen at the close of 1903, for the best research work on the invisible rays.

THE Alaskan quarantine regulations which were enforced against that territory last May has been raised, smallpox having disappeared at all points along the Alaskan coast.

A BUILDING is to be constructed at the State Agricultural College, Lansing, to be used exclusively for bacteriological and research work. The cost is to be $50,000, exclusive of equipment.

THE Memoirs and Letters of Sir James Paget, edited by his son, Mr. Stephen Paget, have just been published in London. The work, both from the high importance of the subject and the competence of its editor, is one of the most valuable and instructive contributions on medical biography ever published.

ACCORDING to the *Journal of the American Medical Association,* in the six years from 1889 to 1894, inclusive, before antitoxin was employed, 2272 cases of diphtheria occurred in Denver, with 827 deaths, a mortality of 36.4 per cent; during the following six years, since antitoxin has been in use, 1641 cases occurred, with 175 deaths, a mortality of 10.66 per cent.

DR. GARNAULT, the French physician, has, according to *American Medicine,* arrived in Berlin, and offered himself to Professor Koch for experiments on the identity of human tuberculosis. Professor Koch declined to give injections, but advised him to drink unsterilized milk from a tuberculous cow for one year, and as far as possible abstain from other foods. This he will do, but he will have injections of highly virulent bacilli every month.

THE evidences of approaching famine in many of the governments of Russia are, according to the *Medical Record,* accumulating, and the officials are beginning already to take measures to reduce to a minimum the inevitable suffering that will ensue. The sum of 96,000 rubles ($48,000) has been appropriated for the government of Saratoff; 407,000 rubles ($203,000) for Tauris; 100,000 rubles ($50,000) for the non-military peasants in the Don basin, and 190,000 rubles ($95,000), with a supply of autumn seed, for the government of Yekaterinslaff. On August 15 the central government's famine fund amounted to only 530,000 rubles ($265,000). Emperor Nicholas ordered that this be increased to 14,000,000 rubles ($7,000,000). According to the reports of the governors, State assistance is required in nineteen provinces, not counting the country of the Don Cossacks.

ACCORDING to the *Journal of the American Medical Association* there is trouble among the barbers in Montreal at present, due to the act passed at the session of the legislature of 1899 incorporating the Barbers' Association of the Province of Quebec. For some time past a petition has been in circulation requesting the Lieutenant-Governor to revoke certain clauses of the act. Clauses 7, 8, and 9 of this petition have particular reference to the hygienic conditions of the shops. Clause 9 sets forth their objections to the

medical inspection and examination of the employees. This examination, if made seriously, they consider visionary, inasmuch as the barber examined may be contaminated from one moment to another, and to make such examination really useful and serious it would be necessary to examine the barber after each and every operation, which would be utterly impracticable. Members of the association have to pay $2 for this medical examination, and a further $2 for a certificate.

VIRCHOW'S eightieth birthday was celebrated in Berlin on October 12. Prominent men of science from all parts of the world were assembled for the occasion, as well as distinguished officials, the entire Berlin faculty of medicine, and deputations from all the German universities. Professor Virchow received an ovation at the Pathologic Institute, and made a speech on the "Development of Pathologic Science," which lasted nearly two hours. In the evening there was a banquet given in the lobby of the Lower House of the Prussian Diet, lasting until midnight. Professor Waldeyer, secretary of the Academy of Science, presented Professor Virchow with 50,000 marks, subscribed by the medical men of Germany, to increase the endowment of the Virchow Institute. Emperor William conferred upon him the Great Gold Medal for Science, and the King of Italy sent a gold medallion bearing a portrait of himself. In New York, in celebration of the occasion, one hundred eminent physicians gathered at a banquet presided over by Prof. William Osler, of Johns Hopkins University, and in Milwaukee it was similarly observed.

THE committee on the Senn medal beg leave to call attention to the following conditions governing the competition for this medal for 1902: (1) A gold medal of suitable design is to be conferred upon the member of the American Medical Association who shall present the best essay upon some surgical subject. (2) This medal will be known as the Nicholas Senn Prize Medal. (3) The award will be made under the following conditions: (*a*) The name of the author of each competing essay shall be enclosed in a sealed envelope bearing a suitable motto or device, the essay itself bearing the same motto or device. The title of the successful essay and the motto or device are to be read at the meeting at which the award is made, and the corresponding envelope is to be then and there opened, and the name of the successful author announced. (*b*) All successful essays become the property of the association. (*c*) The medal shall be conferred and honorable mention made of the two other essays considered worthy of this distinction, at a general meeting of the association. (*d*) The competition is to be confined to those who, at the time of entering the competition,

as well as at the time of conferring the medal, shall be members of the American Medical Association. (*c*) The competition for the medal will be closed three months before the next annual meeting of the American Medical Association, and no essays will be received after March 1, 1902. Communications may be addressed to any member of the committee, consisting of the following: Dr. Herbert L. Burrell, 22 Newbury Street, Boston, Mass.; Dr. Edward Martin, 415 South Fifteenth Street, Philadelphia, Pa.; Dr. Charles H. Mayo, Rochester, Minn.

The Emo Sander Prize of the Association of Military Surgeons of the United States has for 1901-1902 been generously increased by its founder to consist of a gold medal, valued at $100, and $100 in cash. The subject for this year is "The Most Practicable Organization for the Medical Department of the United States Army in Active Service." The following are the conditions of the competition: (1) Competition is open to all persons eligible to active or associate membership in the Association of Military Surgeons of the United States. (2) The prize will be awarded upon the recommendation of a board of award selected by the Executive Committee. The board will determine upon the essay to which the prize shall be awarded, and will also recommend such of the other papers submitted as it may see fit for honorary mention. (3) In fixing the precedence of the essays submitted, the board will take into consideration—primarily—originality, comprehensiveness, and the practicability and utility of the opinion advanced, and—secondarily—literary character. (4) Essays will consist of not less than ten thousand nor more than twenty thousand words, exclusive of tables. (5) Each competitor must send three typewritten copies of his essay in a sealed envelope to the secretary of the association, so as to reach that officer on or before February 28, 1902. (6) The essay shall contain nothing to indicate the identity of the author. Each one, however, will be authenticated by a *nom de plume,* a copy of which shall, at the same time as the essay, be transmitted to the secretary in a sealed envelope together with the author's name, rank, and address. (7) The envelope containing the name of the successful competitor will be publicly opened at the next succeeding annual meeting of the association, and the prize thereupon awarded. (8) The successful essay becomes the property of the association of Military Surgeons of the United States, and will appear in its publications. The Board of Award is composed of the Hon. William Cary Sanger, assistant secretary of war, Brigadier-General George Miller Sternberg, surgeon-general U. S. Army, and an officer of the line to be announced later.

NEW PUBLICATIONS.

GRAY'S ANATOMY.

After the author of the plays of Shakespeare no one seems to have come nearer the production of an immortal piece of writing than Henry Gray, the anatomist. It is a unique experience in the shifting stages of science to find a text-book which maintains all the essential structure of its first edition, so familiar to the student of years ago. It must not, however, be imagined Gray's Anatomy has not been improved, enlarged and revised, and been kept thoroughly abreast of all recent anatomical work. It is this which permits it to-day, as in the past, to maintain its supremacy as an anatomical text-book.

Gray's Anatomy, Descriptive and Surgical. By Henry Gray, F.R.S. Edited by T. Pickering Pick, F.R.C.S. Philadelphia and New York: Lea Brothers & Co., 1901.

A TEXT-BOOK OF MEDICINE.

The famed text-book of Professor Strumpell has been translated into nearly all known languages, and may be said to approximate as closely as any compeer to the ideal of a universal text-book. It is needless to say the text-book fully maintains in its present form the high reputation achieved by previous editions. Large portions of the work have been rewritten, and the author has honestly attempted to bring the book to the level of contemporary medical thought. Strumpell's work is a most attractive one, fascinating in style, resourceful in suggestion, and accurate and closely reasoned in its arguments.

A Text-book of Medicine. By Dr. Adolf Strumpell. Third American Edition. New York: D. Appleton & Co., 1901.

TRANSACTIONS OF THE AMERICAN ELECTRO-THERAPEUTIC ASSOCIATION.

These transactions contain a number of important and invaluable papers dealing with various phases of electrical sciences, as applied to the human economy.

Transactions of the American Electro-Therapeutic Association. Complete Account of Ninth Annual Meeting held at Washington, D. C., September 19, 20, and 21, 1899; also Tenth Annual Meeting held at New York City, September 25, 26, and 27, 1900. Illustrated. Price, Extra Cloth, $2.00 net. Philadelphia: F. A. Davis Co.

WARWICK OF THE KNOBS.

The last of Dr. Uri Lloyd's literary ventures renews our acquaintance with the strange characters which have made the author's Stringtown novels so interesting. The last story brings us in contact with numerous quaint specimens of Southern life.

Warwick of the Knobs. By John Uri Lloyd, author of "Stringtown on the Pike," "Etidorhpa," "The Right Side of the Car," etc. New York: Dodd, Mead & Co., 1901.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Contusion or Rupture of Intestine.

The *Medical Press and Circular* of Oct. 16, 1901, contains the following interesting case recorded by J. Toth:

The patient, about an hour and a half after supper, was kicked in the abdomen by a horse, upon which there was inclination to vomit, but none actually took place. The pain, however, was so great that the patient had to sit down on the ground in a doubled-up position; he was then taken to bed. The condition on the following day was the following: The face had a pained expression; the patient lay in bed turned toward the right, with the right thigh drawn up. The breathing was costal and superficial; there was no abdominal respiration. The abdomen was distended, painful to pressure over the whole surface, but more so about the umbilicus to the right, where there was a feeling of hardness. There was no trace of injury externally. On percussion there was dulness in the lower part, which varied with change of position. Collapse was extreme. Temperature 38° C., pulse 120, small and easily compressed. There was no vomiting and no action of the bowels. One hour after admission the patient passed 300 to 400 cubic centimeters of bright-red urine, but there was no further attempt. In determining a diagnosis the question arose as to whether the peritonitis clearly present was due to contusion or to rupture of the bowel. The answer to this question was not easy to obtain, as the symptoms present might be due to either injury, and the hematuria still further complicated the matter. The hematuria was evidently due to traumatism of the kidney and not to any injury to the bladder, as after exclusion of rupture of the bladder, the chief symptoms of rupture of the bowel, such as vomiting, action of the bowels, and disappearance of liver dulness, were absent. Under such circumstances the diagnosis must be determined by the further course of the case. As a matter of fact, both vomiting and action of the bowels took place about midnight of the following night, the vomit being slimy and of a green tint. The abdomen became more distended. A diagnosis of rupture of bowel could now be made with confidence. Death took place the following day.

The autopsy showed meteorism, no trace of external injury either of the skin, the subcutaneous connective tissue, or of the muscular structures. On opening the abdomen a foul odor was perceptible. The abdomen contained about two liters of thin dark

blood. The peritoneum was covered over most of its extent with a removable pseudomembrane, and beneath this was deeply injected. The pseudomembrane glued together the coils of intestine. On the duodenum there was loss of substance over about one-fourth of the periphery. The loss of substance extended to the lumen of the bowel, the edges were rather sharp, and the rent lay transversely to the axis of the bowel. There was a large quantity of blood-clot lying among the adjoining intestines and adherent to them. The bladder was intact. The case shows the unreliability of the supposed symptoms of rupture of intestine.

Removal of Foreign Bodies from the Air Passages.

In the removal of foreign bodies from the air passages, De Forest Willard (*Journal of the American Medical Association,* Oct. 26, 1901) says that coughing should be encouraged and forcible inspiration restrained. Inversion in the prone position as a domestic practice is advisable. Laryngoscopy is helpful if the body is lodged at the vocal cords. It may be extracted by forceps or by laryngotomy. If time permits, the *x*-ray may be brought into serviceable use for diagnosis. Careful diagnostic investigation is important to determine the actual presence of an impacted body, and its location.

Tracheotomy under local anesthesia should be the rule if the object is lodged at the bifurcation or in the bronchi. Tracheoscopy, suction, and forceps manipulation must be cautiously employed. Prolonged instrumentation adds greatly to the danger of pneumonia. If extraction is not secured through the tracheotomy wound, the chest wall should not be invaded unless an artificial respiratory apparatus like the Fell-O'Dwyer is at hand, and oxygen available. With the assistance of these appliances, however, the bronchus may be reached, anteriorly or posteriorly, since by their use rhythmical movements can be maintained. Resultant abscess of the lung should be treated by incision and drainage.

The Causes of Appendiceal Fistula.

John B. Deaver (*Philadelphia Medical Journal,* Nov. 2, 1901) says that the causes of fecal fistula may be specifically divided into the following:

1. Slipping or sloughing of a ligature used to ligate the stump of the appendix. One or the other of these accidents may occur no matter what method is used to close the wound in the cæcum

caused by the removal of the appendix, for even if the cæcum be repaired by several rows of Lembert sutures, infection of these sutures may cause enough sloughing to open a large fistula in the cæcum. This variety of fistula may appear immediately after operation, or even ten days or two weeks later.

2. Sloughing of an appendix left *in situ* may cause an especially bad fistula, as there is not only the opening into the bowel, but also the appendix remaining as a foreign body.

3. Ulceration into the bowel at the point of adhesion of an inflamed appendix. This is an effort of nature to relieve trouble by drainage of the appendix into the bowel. Removal of the appendix leaves the opening in the bowel, which may be overlooked.

4. Pressure necrosis of the bowel from an abscess or from the pressure of a drainage-tube or gauze left in at the time of operation.

5. Necrosis of the bowel from interference with its nutritive blood-supply either from pressure on the mesentery or from septic emboli in the mesenteric veins. Fistulæ due to to this cause are most common in the cæcum or ascending colon. This accounts also for many deaths from absorption of septic material.

6. Tearing the softened bowel in freeing adhesions at the time of operation.

7. Stripping the serous coat from the bowel in freeing adhesions. This is a very common cause of fistula, and one which we must always be upon our guard against; most of the nutrition of the bowel is derived from the serous coat, and stripping this off usually causes a necrosis of the underlying bowel.

The Treatment (Non-operative and Operative) of Congenital Dislocation of the Hip.

F. F. Burghard (*British Medical Journal*, Oct. 19, 1901) divides into three classes the cases suitable for the various methods of treatment:

In children under two who have not learned to walk, and in whom perfect control over bladder and rectum has not been gained, no active treatment should be carried out. Massage and passive movements, especially in the direction of extension and abduction, should be practiced frequently during the day, whilst at night either weight extension or the ingenious apparatus of Hoffa and Mikulicz may be employed; on the whole, perhaps weight extension is better, as any apparatus is liable to be soiled. The application of a plaster-of-Paris bandage, such as is required by Lorenz's method, is out of the question, as the child under those

circumstances rapidly becomes dirty and excoriated, and the plaster has to be given up.

Between the ages of two and five an attempt should be made to secure a permanent result by Lorenz's method. This should always be checked by the *x*-rays, and the surgeon should not be satisfied unless the head of the bone is, and remains, in position. The manipulations may be repeated at short intervals—two or three times if necessary—so that the surgeon can convince himself as to whether or not it is likely to succeed. Should it fail, the joint should be at once cut down upon without further waste of time, and replaced according to the method described above.

Cases at about the ages of five or six should be operated on at once by the open method, at any rate unless a single trial of Lorenz's method shows that the bloodless reposition is likely to succeed. These children stand the operation so perfectly well—there is so little risk or sepsis, so little pain afterwards, and so little difficulty in establishing and maintaining the reposition—that it is mere waste of time to employ any other method.

After the age of seven at the outside, except in some of the rare cases where the head of the bone can be easily drawn down opposite the acetabulum, no active interference should be undertaken, and some form of apparatus modeled upon Schede's should be worn so as to diminish the unsightly waddle. In patients who are anxious to have some active treatment, Schede's extension, followed by short immobilization in plaster and then the use of Schede's apparatus, may be tried.

A Foreign Body in the Nose.

Gross (*Münch. Med. Woch.*, Oct. 1, 1901) reports the case of a nine-year-old boy who had a very fetid discharge from the left nostril which had existed for over two years. There was a very severe dermatitis about the left nostril and the upper lip. The septum was bent to the right; the left side of the nose was larger, but not sensitive upon pressure. The right nostril showed nothing pathological, but the examination of the left side was very difficult and painful. The secretion had a most terrible stench. For eleven days treatment consisted of the application of swabs soaked in cocaine and argentum Credé. When at last it was possible to introduce a speculum, an incrusted foreign body was diagnosed. The boy was chloroformed, and with a curette the rhinolith was brought out. The severe hemorrhage was controlled by tamponing with cotton saturated with hydrogen perox-

ide. The rhinolith was the size of a hazelnut and proved to be an incrusted shoe button, which the boy admitted he had placed in his nose four years previously. The author concludes that every foreign body as soon as diagnosed should be removed at once, and that every unilateral fetid discharge in the noses of children indicates the presence of a foreign body.

Strangulated Hernia.

J. J. Brownson (*American Journal of Surgery and Gynecology*, October, 1901) says that the danger in strangulated hernia has always been caused by delay. It is the condition that kills, not the operation. In all cases of abdominal pain and vomiting, the attendant must be sure to examine the hernial regions. Systematized details always bring success. When called to a case of strangulated rupture, the mode of procedure will depend upon whether the doctor is a surgeon or not. (*a*) If not an operator, he should make gentle taxis. If not successful, give chloroform, and try again. If the hernia is still unreduced, give the patient a hypodermic of morphine, put on a hot compress, and send for a surgeon at once; (*b*) if the attending physician is a surgeon, he should make slight taxis. If he fails to get the rupture back, preparation for operation should be made while the chloroform is administered. When the patient is anesthetized, herniotomy should be done, and a radical cure performed. Every case of hernia, whether strangulated or not, should be subjected to the radical cure. It should be the rule to operate to prevent strangulation, as well as for strangulation.

Treatment of Prolapsus Uteri by a Simple Operation.

Duhrssen (*Deut. Med. Zeit.*, Oct. 23, 1901) recommends a simple operation for the treatment of the above named distressing complaint. After amputation of the cervix, if called for, the anterior vaginal vault is incised transversely, and Duhrssen adds to this a longitudinal incision. The vaginal part is separated from the bladder either by tearing or cutting, when the bladder presents itself connected to the cervix and the perimetrium by layer fascia. The central part of this may often be severed by a blunt instrument. In its remaining latitude portions which are tense are then ligatured and cut through. The bladder may now be pushed away from the perimetrium, both at the sides and cen-

trally, and when pushed upward and the whole body of the uterus pulled down by forceps, the bladder wall comes well into view. If no further pregnancies are expected the fundus is drawn down and fixed into the vagina by three catgut sutures. The vaginal flaps are then replaced, the fixation sutures tied, and the wound drained by a gauze.

MEDICINE.

Direct Infection with Phthisis.

Direct infection of a nurse from a consumptive patient is reported by Stewart (*American Journal of the Medical Sciences*, September, 1901) in the description of a case of acute splenic miliary tuberculosis. The patient was a young woman who had had no evidence of tuberculous infection prior to her attendance upon a phthisical patient. The patient was in poor circumstances, and had apartments which were badly heated and damp, and the nurse's nourishment while attending him was of very poor quality. In the middle of her second week of attendance upon the case she became acutely ill and died sixty-eight days later, the necropsy revealing a universal tuberculous infection.

The Acid Intoxication of Diabetes in its Relation to Prognosis.

C. A. Herter (*Journal of Experimental Medicine*, October, 1901) says that a careful balancing of the normal acids and bases of the urine makes it possible not merely to detect the presence of organic acids in the urine, but also to determine approximately the amount of such acids. The determination of the N of NH_3 is a useful procedure for clinical purposes, since it is probably true that a considerable excretion of organic acid (say 15 grammes of oxybutyric or more in twenty-four hours) is always attended by an increased excretion of NH_3. As much organic acid as corresponds to 10 grammes of oxybutyric acid may be excreted in twenty-four hours without causing an increased excretion of NH_3. We cannot therefore rely on the ammonia output to detect moderate quantities of organic acid. Where organic acids are removed in considerable amount without increasing the excretion of NH_3, the acid takes out other alkalies, probably in some instances chiefly K.

In cases of diabetic coma the urine always contains a large excess of organic acids, and the N of NH_3 is usually increased to eighteen to twenty-five per cent of the total N. Crotonic acid can regularly be obtained from the urines of patients in diabetic coma. The condition of diabetic coma is preceded by a period of days, weeks, or months in which there is a large excretion of oxybutyric acid (20 grammes or more in twenty-four hours), and in which the N of NH_3 is largely increased. Patients whose urines show or have shown a large excretion of organic acids are in danger of developing diabetic coma, but the N of NH_3 may temporarily rise as high as sixteen per cent, and yet coma may be delayed for more than seven months. The persistent excretion of more than 25 grammes of oxybutyric acid indicates impending coma. A patient passing 30 grammes of oxybutyric acid in twenty-four hours may still have enough energy and strength to be about all day and perform considerable muscular work. A patient who has been excreting very little organic acid and has gained weight may within a few months show the presence of considerable quantities of organic acid, and die in typical diabetic coma. When the urine contains little or no organic acid there is no immediate prospect of diabetic coma, but patients with such urine are probably liable to most of the other dangers that threaten diabetic patients. When the urine regularly contains more than 200 grammes of sugar per day there is usually considerable organic acid in the urine, and large amounts of acid, indicative of coma, are invariably accompanied by considerable or great glycosuria. Sometimes there is much sugar and little or no acid in the urine, and sometimes there is considerable acid and little sugar. These facts render it desirable to examine the urine of diabetic patients at least once a month with reference to the amount of acid excreted, for the element of acid intoxication must be clearly separated from the element of glycosuria in our study of the progress of a case. We must thus hope to prolong life in many instances by taking precautions, as to diet and out-of-door life, which might not otherwise be deemed necessary. The withdrawal of carbohydrate food frequently leads to a considerable reduction in the quantity of organic acids excreted. The reason for this is not yet clear, and the phenomenon deserves careful study.

The Causes and Treatment of Epilepsy.

At the recent meeting of the New York Medical Society, Dr. W. P. Spratling (*Medical Record,* Oct. 19, 1901) read a paper under this title. He said that nearly eighty-five per cent of all

epileptics develop the disease before adult life, and that one in five hundred of the population is thus afflicted. Epilepsy in the parent reproduced itself in the offspring in sixteen per cent of over one thousand cases studied. Alcohol had been a family cause in fourteen per cent. A powerful factor in the causation of epilepsy is infantile cerebral hemorrhage. He has known three cases of epilepsy to follow psychic shock. The epilepsies of adult life, unlike those of childhood, have no fixed etiological basis. When they are not due to delayed family causes, one will commonly find gastro-intestinal intoxication or disease of the circulatory system.

Concerning the treatment employed at the Craig Colony, the speaker said that an effective plan of administering the bromides is by salting the patient's food with it in lieu of common salt. In this way not only is bromism largely avoided, but only about one-half the usual dosage is required. A study has been made of twenty-nine cases of epilepsy that had been subjected to the operation of trephining, and the conclusion was reached that no permanent benefit had resulted.

Appearance of Red Corpuscles in Urine.

Tarchetti (*Gazz. degli Osped.*, June 9, 1901; *British Medical Journal*, Oct. 19, 1901) says that red corpuscles are sometimes found almost in their normal condition in urine, but usually altered. They may be (1) partially decolorized; (2) colorless homogeneous corpuscles looking like little rings, often irregular in outline and much smaller than normal; (3) they may even become invisible, only the colorless stroma being left. Their appearance has been supposed to indicate the source of the blood, but is unreliable. In a case of chronic hemorrhage undoubtedly vesical the first specimen showed the blood color to the naked eye, but even after centrifuging only a stray corpuscle or two could be seen. This was put down to the specific gravity being only 1010. The patient was transferred from milk diet to mixed diet for a few days, and though the specific gravity only rose to 1013, the corpuscles were found well preserved. Sabraziz and Boncom, from analogous results, concluded that the preservation of the corpuscles is not due to variations in specific gravity, but to variations in the amount of sodium chloride, which is very deficient under a milk diet. Why, then, are the red corpuscles coming from the kidney always markedly decolorized? Not because of length of sojourn in the urine, for they can be kept for much longer periods in urine without such effect. It is probable that in the glomerulus the corpuscle is in more dilute urine, and espe-

cially in urine poorer in chlorides than that in the bladder. In hemorrhagic nephritis sections fixed by Muller's method show normal red corpuscles in the vessels and almost colorless rings in the tubules. This indirectly supports Ludwig's hypothesis that the dilute urine is concentrated in the tubules.

Gonorrheal Myositis.

Ware (*American Journal of the Medical Sciences,* July, 1901) has been able recently to demonstrate gonococci in inflamed muscle. His patient, a man thirty-five years of age, who had contracted gonorrhea two months previously and suffered from chills and pain in the left knee a month later, complained of severe pain about the shoulder. Passive abduction of the arm caused spasm of the adductor muscles, and a tender, indurated patch was detected in the muscles of the posterior axillary fold. As the patch increased rapidly in size, an incision was made into it. The muscle was sodden, grayish, and in parts friable. No pus was found, but much turbid serum exuded. Tubes of sugar agar and sugar bouillon remained sterile after inoculation, but cover-glass smears showed diplococci without any other organism. These were typical gonococci in shape and arrangement, and were decolorized according to the Gram stain. A section of the muscle showed typical interstitial inflammation. Some of the fibers were the seat of cloudy swelling. The connective tissue proliferation was so great as to separate and compress the individual muscle fibers. Stained sections showed a liberal scattering of diplococci grouped about the nuclei and in the interstices of the muscle fibers. The incision relieved the pain, but the inflammation spread as far as the insertion of the latissimus dorsi. Ware thinks that the myositis was more probably due to extension from the shoulder-joint than to metastasis.

The Clinical Course of Cancers with Reference to Their Resemblance to Inflammatory and Infectious Processes.

At a recent meeting of the New York Medical Association, Dr. A. Wochert (*Philadelphia Medical Journal,* Nov. 2, 1901) read a paper under this title. The author says it is doubtful whether there is an infectious cause or not, and if so, whether of animal or vegetable nature. Environment seems to play some

part, as cancer is more frequent in some localities than in others. In Buffalo it is about four times as frequent in the German and Polish settlements as in those of the native-born. The inhabitants living upon some soils, as the limestone, it has been claimed, have marked immunity from cancer. Authors differ in regard to the part heredity plays in the causation of it. However, there is no stage of incubation, and the process is local in the beginning. Cases may be divided into three groups: (1) Those in which metastasis occurs early and they are rapid in growth; (2) those more chronic in growth and ulcerations may form; (3) those marked by a mild toxemia. Pyrexia is common, if the cancer is of internal origin. If the liver is involved there are apt to be chills intermitting in character. In the pyrexia carcinoma resembles tuberculosis. Osler found in some of his cases a temperature of 103°. In six cases of the author's, two of the liver and four of the stomach, he found variations of from 2° to 4°. This points to an infectious process. The blood also would indicate this, as there is first mild anemia, becoming more marked later, in this resembling tuberculosis and syphilis. The kidneys show marked change, and may bring about fatal termination by coma. More elaborate clinical studies are necessary to assist the pathologist to establish the nature of the process.

How Long Can a Diabetic Live After Contracting Pulmonary Tuberculosis?

G. Oeder answers this question (*Deut. Med. Woch.*, Oct. 3, 1901) by citing a case, which does not agree with the statements of Prof. v. Noorden, namely, "pulmonary tuberculosis plays an important factor in diabetes. It is not extravagant to say that one-quarter of all diabetics in Germany contract pulmonary tuberculosis, and having contracted the disease, quickly die." Oeder's case dates back to April, 1896, when the patient, fifty-one years old, with a splendid family history, developed a catarrhal tubercular pneumonia in the progressive stage, and a glycosuria of 7.5 per cent sugar. The author naturally warned the wife, offering some hope, but personally believing there was none. He had three attacks of hemoptysis, the second accompanied by collapse. He recovered about the first of June, ate everything, and the urine contained 4.5 per cent sugar. The patient has not had occasion to consult the author for several years, but occasionally has sent his urine for examination. Diet has not been much restricted;

he drinks beer, eats potatoes and bread moderately, but no sugar. In February, 1901, he consulted the doctor for an acute coryza. He was in a well nourished condition, coughed a little, and the sputum still contained great numbers of tubercle bacilli. The urine contained 3.3 per cent sugar. No furunculosis, skin irritation, polyuria, or other complications of diabetes. He is now fifty-seven years old, robust and vigorous, but at times inclined to be somewhat hypochondric. The glycosuria had probably existed some time before its discovery, and the pulmonary tuberculosis was secondary. Diseased organs (pancreas, liver, nerves, and brain) are not the cause of the elimination of sugar, but rather an alteration in carbohydrate metabolism. This case shows that we should be always guarded in our prognosis, even in such an apparently hopeless case as this seemed to be at the beginning.

A Case of Pseudoleukemia with Intermittent Fever and Glycosuria.

A. Goldschmidt (*Münch. Med. Woch.*, Oct. 1, 1901) reports the case of a sixty-year-old man who six years ago was affected with glandular swellings of the neck and axilla. The diagnosis of pseudoleukemia was made, and Fowler's solution, pushed to the limit, was administered with very good results for a few months. After two years he became much weaker, and hypodermic injections were used until they had to be stopped owing to their effects (diarrhea, erythema, debility, etc.). In a few months he developed an icterus and then an intermittent fever. The blood showed simply a slight decrease in the number of red blood-corpuscles. Getting no results from the treatment, he received two injections of antistreptococcic serum, which showed no influence on the temperature, and it was therefore discontinued. Up to the appearance of the fever the urine had been repeatedly examined, but sugar did not appear until the fever occurred. The amount of sugar varied from day to day and had no relationship to the carbohydrate in the nourishment. This condition lasted several months. In the early winter of this year he returned from a visit to Switzerland feeling very badly. His urine contained no sugar, but a slight amount of albumin with granular casts. The blood, which previously had been almost normal, showed a great increase in leucocytes (1:80-100). It was clearly a true leukemia developed from a lymphatic pseudoleukemia. The patient died in a few months, but unfortunately no autopsy could be held.

PATHOLOGY AND BACTERIOLOGY.

UNDER THE DIRECTION OF THADDEUS WALKER, M.D.,

Microscopist to Harper Hospital, Detroit.

Have Lymphocytes Ameboid Movement?

Hans Hirchfeld (*Berlin. Klin. Woch.*, No. 40, 1901) says that hematologists have heretofore held that one of the differences between the polymorphonuclear and mononuclear white corpuscles was that the former had ameboid movement and the latter none. This has been generally accepted by all investigators except a few who observed small pseudopodia in the large lymphocytes. The writer investigated this point with blood from a case of lymphatic leukemia, and observed lymphocyte movement. He first spread a slide thinly with a one-per-cent agar solution, to 100 cubic centimeters of which was added 0.6 gramme of sodium chloride, 6 to 8 cubic centimeters of a 10-per-cent solution of sodium meta-phosphate, and 5 cubic centimeters of a 10-per-cent solution of disodium phosphate. He next placed a fresh drop of the blood on the slide, and observed that in a short time all the white corpuscles lost their roundness and began to send out short pseudopodia. The movement continued to grow more active with change of form, as has always been attributed to the polymorphonuclear variety alone. At the same time the latter, the neutrophiles, were much more active. The author considers the discovery of sufficient importance to report it now, and promises to soon publish results of further investigations on the subject.

The Anatomical Results of Hanging and Strangling.

Reuter takes up the question (*Zeitschrift f. Heilkunde*, Bd. xxv, Heft 4) of determining between hanging and strangling in case of death. He believes that when there is no other evidence, the mode of death can be determined by the anatomical condition. He submits the cases he has investigated in tabulated form and draws the following conclusions, that cases of strangulation, as a rule, show marked cyanosis of the face with ecchymosis of the eyelids and conjunctiva; in death from hanging the cyanosis is generally missing and the ecchymosis is seldom absent. The cranium, the brain, and the dura are full of blood from strangulation, and from hanging the blood contents of these parts vary. Hemorrhage into the soft parts of the neck, especially the muscles, is the rule in strangulation, in hanging seldom. Injuries to the

pharynx and the hyoid bone structures seldom occur with strangulation, but are frequent in hanging. The latter, in a small percentage of cases, produces rupture of intima of the carotids, which was never observed in strangulation cases.

A Simple Method of Detecting Fat in the Blood.

Zaudy (*Deut. Archiv f. Klin. Med.*, Bd. lxx, Heft 3 u. 4) says that lipemia may occur through an increase of fat partaken as food; by an underoxidation of the fat in normal foods; by an increased destruction of the body fat; or by an abnormal fatty degeneration of the body cells. The presence of lipemia can be established by an exact quantitative chemical analysis of the blood, which in private practice is impossible owing to the quantity of blood necessary to be taken from time to time. The author therefore devised a method, with which he has obtained good results. He sterilizes the finger-tip with alcohol and ether, and then catches a drop on a cover-glass which is ringed with vaselin and placed on a culture slide. With normal blood the disk is soon surrounded by a clear fluid, while with fatty contents it becomes turbid in a few minutes and appears bluish to milky white.

THERAPEUTICS.

Treatment of Ulcer of the Leg.

Schulze (*British Medical Journal*, Oct. 19, 1901) recently reported a series of cases of ulcer of the leg which he had treated by various ointments containing camphor, and at the same time he criticized the use of "wine of camphor" unfavorably for two reasons: first, he stated, it causes pain, and secondly, the treatment is unsuitable for certain cases.

Walbaum (*Münch. Med. Woch.*, June 25, 1901) writes that he has used camphor, and especially "wine of camphor," in cases of chronic ulcer of the leg, and has not met with a single instance where it failed to heal the wound up completely. He has never heard a patient complain that the application was painful. The method which he employs is the following: The leg is well washed and rubbed with soft soap and water, and then a dressing moist with "acetic acid clay" is applied daily, until the exudation is less and nearly odorless. This usually takes two or three days only. He then applies the wine of camphor on a graduated

compress, which is covered with a dry layer of gauze, and over that a piece of protective not quite reaching to the edge of the dry gauze. The whole is enveloped in cotton-wool and carefully bandaged. This has to be renewed every alternate day, and before it is put on again the leg is well rubbed with a pad of cotton-wool soaked in lysol or carbolic acid solution. He finds that the ulcer usually heals up with this treatment in three weeks.

Mercurol in Syphilis.

W. Ayres (*Lancet,* Oct. 19, 1901) gives an experience of mercurol given in tablet form in 180 cases of syphilis. The writer's plan was to increase the medicine steadily from one grain until the symptoms were controlled, or until there was a slight tendency on the part of the teeth and gums to become tender. If the symptoms were not controlled before the physiological effect of the mercury made itself felt, small doses of potassium iodide were added. The writer says that he has found mercurol to be the most satisfactory form of administering mercury in cases of syphilis, and now uses the drug to the exclusion of all others in his practice. He says that he finds it is a rule in private practice that a dose of two or three grains a day is the most that patients can stand or require.

Management and Therapeutics of Arteriosclerosis.

Dr. E. Le Fevre (*Philadelphia Medical Journal,* Nov. 2, 1901) says that successful treatment and management depend upon a consideration of all the causes produced. The most important factor in arteriosclerosis is age, and more or less change in the blood-vessels is natural. There are two stages: (1) Toxemia, which constitutes the curative stage. There is arterial spasm, slight pathological changes in the blood-vessels with hypertrophy of the muscular coat, when there is a hereditary tendency, and usually the onset comes on after forty-five years. The habits of the patient have a great influence on the disease. The management and treatment of this stage are mainly prophylactic and very important. Exercise in the open air, outdoor life, diet, small amount of meat, but plenty of vegetables, the eating of which should be encouraged. If alcoholic stimulants must be given, they should be limited to whiskey. The early stages of arterio-sclerosis in women differ from those in men on account of the

differences in their daily life. Where toxemia is more or less chronic, it may be necessary to take a saline cathartic. A capsule containing quinine is taken in the morning with laxative doses of mineral waters or phosphate of soda. (2) Capillary fibrosis. The patient feels heart thumping against chest wall, but thinks it only comes from indigestion. The idea is to put off cardiac failure. Increased obstruction of the artery causes increased cardiac power, which sends the blood into the arteries with much force, causing traumatism and exciting spasm of the muscular coat of the artery. Iodine and salts have been called the medicine of arteries. Clinical experience has demonstrated that in arteriosclerosis it has the power of lowering the blood-pressure, and does it without diminishing the force of the cardiac system.

The Treatment of Obstruction of the Bowels.

In the treatment of obstruction of the bowels there can be no question, according to H. C. Dalton (*American Journal of Surgery and Gynecology*, October, 1901), as to the urgent necessity of immediate surgical interference. Dalton says that he cannot too strongly condemn the use of opium or purgatives in cases where we have the least suspicion of obstruction. The use of opium simply obscures the symptoms by deadening the pain so that peritonitis becomes so far advanced as to render operative interference almost useless. Purgatives, of course, by adding to the bowel peristalsis, aggravate the condition, and not only make the obstruction more acute, but cause vomiting and thus increase the shock. Dalton says he believes it is the duty of the medical attendant to withhold all opiates and purgatives when called to a patient suffering with abdominal pain. It is extremely difficult, however, and perhaps heartless, to stand by and allow a patient to suffer excruciating pain while waiting developments. He says he is persuaded that it would be far better to use simple hypnotics and soothing local applications until we are convinced that we do not have to deal with the simple colic. The only exception to this rule is when we have good reason to believe that our patient is suffering from a hepatic or renal colic. The location of the pain and the previous history of such attacks in these conditions would be a good guide and enable us to draw a fairly safe conclusion. If the use of the hypnotics, warm applications, and high rectal injections does not relieve the condition after a few hours' trial, the only wise course to pursue is to perform abdominal section.

Treatment of Skin Affections by Cold.

Saalfeld (*British Medical Journal,* Oct. 26, 1901) applied liquid air in five cases of skin affections. These cases included one of lichen ruber planus, one of eczema lichenoides, one of tylosis of the hands, one of warts on the dorsum of the hands, and one of a soft sore. The temperature at which air is made liquid is 190° C., and the sudden cooling down of a vessel into which the fluid is poured was shown by the bursting of a glass vessel into which he wished to transfer the fluid. He applied it, by means of a small swab, twice to the back of a mouse; the skin became of a leathery hardness, and the animal died ten minutes later from shock. The same hardening of the skin took place in a rabbit, and this disappeared after a day or two. The application to the patients caused burning and itching, which lasted from fifteen to thirty minutes. After an hour or longer a blister rose, and on puncturing this plentiful serum escaped. The secretion gave rise to a crust formation, which remained from one to three weeks, after which, in the case of the lichen, the eczema, and the tylosis, the skin healed up and appeared normal. The warts were removed, by a process of falling out, in a few hours. The soft sore disappeared in about four days. As liquid air was expensive, he attempted to use a mixture of chloroethyl and chlormethyl (15 per cent), which is known as metoethyl. This freezing mixture gave him excellent results in some chronic infiltration affections, in eczema lichenoides, in lichen planus, and in tylosis.

Analgesia from the Spinal Subarachnoid Injection of Cocaine.

J. G. Sherrill (*American Medicine,* Oct. 26, 1901) says that the conclusions at which he has arrived from the close study of the situation are: "That cocaine analgesia is not likely to prove satisfactory in operations above the level of the diaphragm; that probably it will not be much used in abdominal cases which are not clear, and are likely to prove tedious or difficult; that its special field will be found in operations upon the lower extremities, including amputations and resections, and upon the perineum, bladder, and rectum; also that it is useful in operations on old persons and those suffering from diseases of the heart, lungs, or kidneys, from cirrhosis of the liver, and from abdominal dropsy; and that it can be successfully employed when a patient fears general anesthesia. If we neglect this method in the proper cases we certainly throw aside a valuable addition to our armamentarium."

PEDIATRICS.

UNDER THE DIRECTION OF CHARLES G. JENNINGS, M.D.,

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Melena Neonatorum a Symptom of Enteritis Syphilitica.

J. Esser (*Archiv f. Kinderheilkunde*, Bd. xxxii, Heft 3 u. 4) says most authorities now regard the so-called melena neonatorum not as a disease *sui generis*, but rather as a serious symptom of different disease conditions. Esser had an opportunity to examine carefully the organs of a ten-day-old baby with the appearance of melena neonatorum, and found the cause of hemorrhage to be hereditary syphilis in the not common form of enteritis syphilitica. In the lower jejunum the mucous membrane for about two inches was thickened and ulcerated with a hemorrhagic spot about the size of a ten-cent piece. About four inches lower was a similar thickened mucous patch without signs of hemorrhage. Microscopically there was a small cell infiltration of the intestinal wall. The blood-vessels were characteristic of enteritis syphilitica.

OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,

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Strabismus and its Treatment.

A. E. Davis (*Journal of the American Medical Association*, Nov. 9, 1901) draws the following conclusions in regard to this affection and its treatment:

1. That it is desirable that we have a uniform or standard set of tests for the accurate measurements of strabismus.

2. A better understanding of the physiologic action of the ocular muscles and of physiology in general than at present obtains should be had by those treating and operating on strabismus cases.

3. The amblyopia present in most cases of convergent strabismus is functional and acquired, and not congenital, except in rare cases.

4. The non-operative treatment of strabismus—atropine, the exclusion pad, and, in patients old enough, glasses, the stereo-

scope, and bar-reading—should be begun as soon as the squinting is observed; for it is in the early cases that this form of treatment is capable of doing so much good. By means of it, if the case is taken in time, false fixation and suppression of the image in the squinting eye are prevented, fusion of the images encouraged, and form-perception—that is, true binocular single vision—often maintained. Even where one or more of these functions have been lost persistent effort in the non-operative method of treatment frequently restores them.

5. About thirty per cent of all cases of strabismus may be cured by non-operative treatment alone.

6. Just as soon as the non-operative method of treatment ceases to improve the condition of the squint, it is time to operate. Delay in operating after this is not only useless but harmful, because the habit of suppressing the image in the squinting eye becomes fixed and the amblyopia worse.

7. After the eyes have been operated on, the use of the stereoscope, bar-reading, the pad, glasses, etc., are of the utmost use in completing the cure.

8. Panas's method of operating for strabismus by stretching the muscles before cutting them is to be recommended as safe in execution, quick in results, and efficient. It should never be performed while the patient's eyes are under the influence of a mydriatic.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,

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The Social Aspects of Dermatology.

The following extracts are taken from the Lane lectures on the above subject, delivered by Malcolm Morris, F.R.C.S. Ed. (reported in *American Medicine,* Nov. 9, 1901):

Erythema Nodosum and Rheumatism.—Erythema nodosum, which is characterized by the development of large painless swellings mostly on the legs, is a disease of youth and has a marked predilection for young women. It is frequently associated with rheumatism, and is often the result of fatigue from long standing.

Lupus Erythematosus and the Tubercular Bacillus.—A family history of tuberculosis is found in a certain proportion of cases, and the disease is not infrequently associated with distinctly tuber-

culous conditions elsewhere. No tubercle bacilli have, however, been found in the affected skin, and the inoculation test has so far been invariably negative. The question of the relationship of lupus erythematosus to tuberculosis is therefore still undecided. As lupus erythematosus is very refractory to treatment, if it is extensive it practically ruins the patient's life. The light treatment, however, is successful in some cases.

Pathology of Herpes Zoster.—Drs. Head and Campbell examined seventeen cases at all periods from a few days to a year and a half. Their researches showed that herpes zoster is associated with hemorrhage into the posterior root ganglion, or an acute inflammation of it followed by more or less secondary degeneration in the posterior root and peripheral nerves connected with the ganglion. The affection is ushered in by febrile symptoms, and soon pain comes on in the lines of distribution of particular nerve roots. It occupies the territory not only of the anterior primary division (intercostal nerves), but also of the posterior primary division. On the trunk it thus runs more or less round one-half of the body. Usually the pain, which is stabbing or aching in character, ceases as the rash subsides, but in elderly persons it may last for months and years.

The Nervous Factor in Eczema.—The orator has seen so many cases in which eczema of the acutest type has apparently been the direct consequence of mental shock, strain, or worry in persons whose skin was perviously quite healthy, that he cannot doubt that the derangement of the nervous mechanism brought about by the influence of the mind on the body has been reflected on the skin. The association of eczema in women with menstruation, pregnancy, change of life, and uterine diseases, and in both sexes with gastrointestinal disturbance, may, he thinks, fairly be interpreted as results of reflex irritation. The fact that the most effective remedies in eczema are nerve sedatives like opium and antimony is also suggestive of a neurotic element in the pathogeny of the disease.

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ORIGINAL CONTRIBUTIONS.

A MENINGEAL TUMOR INVOLVING THE CRANIAL NERVES.

A Joint Report by D. R. Brower, M.D., LLD., Professor of Nervous and Mental Diseases, and H. G. Wells, B.S., M.D., Assistant in Pathology, Rush Medical College, Chicago.

DR. BROWER'S REPORT.

Mrs. W——, aged forty-seven, was brought to my clinic October, 1890, by Dr. Annetta S. Dobbins, with the following history: She was admitted to the Woman's and Children's Hospital May 28, 1882, complaining of a sense of weariness on the slightest exertion, of an intense earache in the left ear, a severe headache, and pain and swelling of the left side of the face. There was a slight trace of albumin in the urine, and a slight aortic regurgitant murmur. She had had three living children, and six miscarriages. Under treatment she improved, and was discharged June 29, 1882. January 6, 1883, she returned to the dispensary of the hospital, on account of a distressing and peculiar cough. The following June she again returned to the hospital with a transitory attack of left hemiparesis, the sensory impairment being more marked than the motor, and the cough of the preceding winter more harassing. A month later she had another miscarriage in which there was an unusual loss of blood. She was again taken to the hospital, and there the facial paralysis was detected and on examination all the cranial nerves below the fourth except the abducens were found to be involved. On my examination I found paralysis of the motor and sensory branches of the trigeminus on the left side; of the abducens manifested by strabismus, diplopia and dizziness; of the facial, a complete facial paralysis, the muscles showing the reaction of degeneration; the auditory, with a complete loss of hearing; of the glosso-pharyngeal, shown by a posterior ageusia; of the pneumogastric and spinal accessory, shown by the cough, disturbed

respiration and heart's action, alterations in the voice, gastralgia, and difficulty in swallowing; of the hypoglossal, by hemiparalysis and atrophy of the tongue. The only symptom that showed progression of the pathological condition was the involvement of the abducens, as compared with the record made in 1883. The lesion began in May, 1882, probably slowly progressed, and just when its maximum was attained, after July, 1883, the record does not show. There was at the time of my examination also atrophy of the left sterno-cleido-mastoideus, and of the upper part of the trapezius muscles. Albumin was still present in the urine, and a slight aortic regurgitant murmur, and the arteries showed marked sclero-

FIG. 1.—Case of Meningeal Tumor.

sis. She had had at this time in all twelve miscarriages. The family history was negative; the mother was still living, and the father had died a few months before of cardiac disease.

We made the diagnosis of meningeal tumor, because the symptoms continued to be unilateral until the end. Nuclear lesions are almost invariably bilateral, or soon become so, and, moreover, there was no progression upwards or downwards. I excluded an amyotrophic latent sclerosis and progressive bulbar paralysis.

There were at no time in the case any pressure symptoms manifest. Repeated examinations were made of the optic fundus, and nothing abnormal found. Interesting features of the case are,

first, its long period of quiescence; beginning with 1890 till the time of her death, the case was shown every year at my clinic, and the symptoms showed no progression. The growth of the tumor, also, must have been very slow. The next interesting fact is the absence of pressure symptoms, and the third interesting one, and the very important one, is the fact that the very thoroughly scientific pathologic study of the tumor by Dr. H. G. Wells excludes syphilis in its pathogenesis, and makes it a benign tumor of the perithelioma variety. We supposed it was syphilitic, because of her numerous miscarriages, none of which were the product of violence, and because of the marked arterial degeneration which

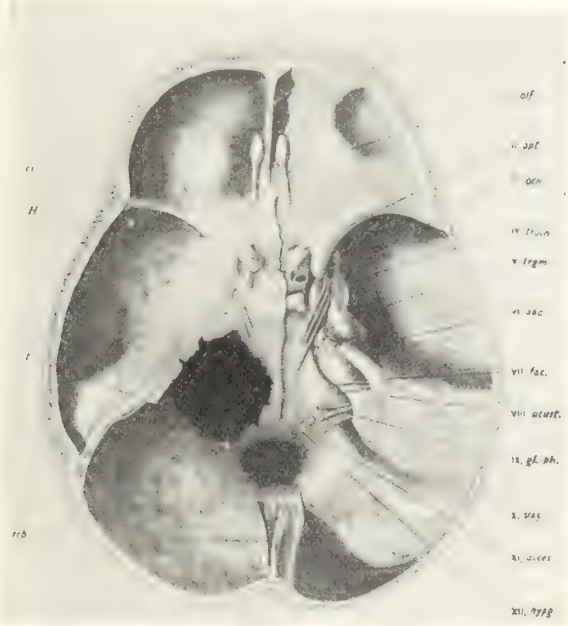

FIG. 2.—Base of the skull with the emerging cranial nerves (after Henle): *ci*, internal carotid; *H*, pituitary body; *t*, part of tentorium; *feb*, falx cerebelli.

she had, and because of glandular enlargements, and because of the benefit derived from the use of antisyphilitic remedies. She was probably a syphilitic patient with a non-syphilitic brain tumor, and this fact should make us more cautious in referring the genesis of nervous symptoms to syphilis, in syphilitic patients.

The patient died of angina pectoris.

Figure 1 shows the patient as she appeared at my clinic, December, 1897.

Figure 2 shows the lesion diagrammatically as located at this clinic.

At autopsy a tumor was found arising from the dura over the

petrous portion of the temporal, which bone had been extensively invaded. It extended anteriorly as far as the foramen lacerum medium, and posteriorly to the anterior condyloid foramen, pressing upon the cerebellum, pons and medulla. This location agreed with the paralysis of the cranial nerves, and corresponded exactly with the location diagnosed clinically. Microscopically it was found to be an endothelial growth arising from the endothelium of the perivascular lymph vessels, the periendothelioma of Bormann.

THE FRENCH CONGRESS OF SURGERY AND URINOLOGY.

BY HAL. C. WYMAN, M.D.,

Professor of Surgery, Michigan College of Medicine and Surgery, Detroit.

The French Congress of Surgery completed its session yesterday. The attendance was representative of France. Meetings were held in the grand amphitheater of the Ecole de Médecine. The first paper and one which received much attention was by M. Lucas-Championnière on the subject of antisepsis. He praised the work of Lister. Was afraid we were getting away from the true and correct practice when we indulged too much in asepsis. The theory of asepsis is beautiful but the practice may be bad. Fire is a great antiseptic; chemicals must not be neglected. They must be used freely in the field of operation before the operation, and everything that touches the wound must be treated with them. Heat, sublimate of mercury, carbolic acid, alcohol, are among the most efficient chemicals, according to his notions. Nothing new in these ideas for American surgery. There was a paper on the use of chloride of ethyl as an anesthetic. It acts quickly. Is very good for quick operations, like removal of tonsils and adenoids, opening of abscesses, etc. The anesthesia appears in a few seconds after the commencement of the inhalation. Not more than 2 grains are needed usually, for the examination of a fracture or reduction of a dislocation. I saw it used at the Ecole Practique on sundry cases of removal of the tonsils and curettement of the nasopharynx. Its action was agreeable. The child was taken in the nurse's lap, its hands held by the nurse. Its head on nurse's shoulder, sitting upright. Then the doctor poured the chloride of ethyl, 2 grammes, on a piece of gauze, 3 or 4 layers thick, in his right hand, and held it firmly to the child's nose. Two or three heavy respirations, a kick or two, the muscles relaxed, and anesthesia was complete. He now introduced a gag or tongue depressor and proceeded with his operation. When it was com-

pleted the anesthesia vanished almost as quickly as it came. On adults it works just as well. If the operation is to be a long one, chloroform is used to prolong the anesthesia. It promises more than the bromide of ethyl, which it has superseded here in Paris.

A feature of the congress was the attention given to the surgery of the stomach. All the best surgeons in France either had papers on the subject or reported cases in the discussion. Several reported twenty-five cases of operations on non-malignant cases without a death. Dr. Pantaloni, of Marseilles, seemed to be the man who was most experienced in the performance of operations for the relief of non-malignant lesions of the stomach and abdomen. He has had great success in curing dyspeptic and other sick people by gastro-enterostomy. He performs the Y operation. I expect to visit his clinic at Marseilles and will then describe his methods. Yesterday Dr. Legueu, one of the surgeons at Hôtel Dieu, operated on a case of ulcer of the stomach by gastro-enterostomy, but his patient died before the union of stomach and intestines was completed. Perhaps the anesthesia was too prolonged and the patient too feeble. She was a woman sixty-five years old, was very thin, had been vomiting for two weeks, and had more or less constant pain in the stomach. Medicine and lavage had done no good. Surgery was resorted to too late. Day before yesterday I saw the same man remove about one foot of the ileum for tumor, which he said was tubercular. The patient looked pale and cachectic. The tumor was easily felt in the right inguinal region. Her stools had been grumous and bloody for six months. She was failing every day. After the tumor and intestine were incised the stumps of the intestines were united by sutures. Nothing but plain continued sutures for the mucous membrane and interrupted sutures for the serosa, just as the tailor sews the sleeve into a coat. Dr. Legueu is very particular to make sure of the perfect cleansing of his patient and of his diagnosis. He did a hysterectomy for a woman who had a tumor in her womb, a fibroid which involved the walls and had contracted many adhesions. These were all separated quickly, ligatured when needed, and the tumor and womb separated from the patient in a very brief length of time. He ligated the uterine arteries, as Howard Kelly does, before cutting the attachments of the womb to the broad ligaments and vagina.

Another congress has been in session here this week and has occupied the small amphitheater at the medical school. It is the Congress of Urology. They talked a great deal about floating and wandering kidneys, and advised more care in the examination of patients with abdominal pain and operations of divers kinds to keep the organ in place. The discussion indicated that many

French surgeons are averse to putting stitches through the kidney. The best results were claimed for operations without suture—simple replacement and fixation with bandage and pad during the period of healing. Prostatectomy is increasing in favor. Many operations were reported. Probably the one most practiced is done through the perineum by a broad transverse incision in front of the anus, about three-quarters of an inch. Any or all lobes are easily separated through this wound, and the urethra is easily repaired by dragging down the vesical portion and making it fast to the membranous urethra. Diagnosis for this work is based on history of vesical distress and impairment of function with distinct palpation of a tumor or enlargement of the prostate. The operation is indicated in all cases that are not too feeble to undergo anesthesia and any operation.

Paris, Oct. 27, 1901.

TRAVEL AS A CURE FOR DISEASE.

BY J. HOWE ADAMS, M.D., PHILADELPHIA, PA.

Unconsciously the physician loves to order for his patients that which he likes for himself. It has always seemed to me to be an interesting field for investigation to determine how much the management of his cases of the ordinary physician depends upon his own fondnesses and predilections. We are apt, for example, to order for our ambulatory patients, unless we curb the desire, the goods, the forms of exercise and methods of life which we ourselves best enjoy. This influence in a physician's work is particularly felt, when it comes to the question of travel. If the busy practitioner cannot give up his never-ceasing round of calls and work, he is instinctively anxious to give this change to those who fall under his charge. Just as we are apt to give as presents things we would like ourselves to possess, so the hard working physician is apt to give this present to his patients.

When the case is of such a nature that the patient is not confined to bed, and the financial standing is such as to permit of travel, there is a great natural tendency to send such a person away. This matter is treated rather lightly by the profession; seated in his office, the physician instinctively gives the order "to travel," without considering the many grave difficulties and dangers surrounding such an experience.

The first thing to consider in taking up the question of travel, for people who are feeling unwell, is the question of what there is in it of medicinal value. What are the therapeutics of travel?

After careful consideration, it must be acknowledged that the effect is largely psychical. We are all familiar, more or less, with the wonderful influence which the mind has over the body, and there is no doubt that the change of scenes, the different details of life, the taking the mind off home worries and strain, the ingestion of different food, are often of the most potent benefit, and produce effects which no amount of medicine could bring about. On the other hand, however, there are many adverse elements in travel which cannot be eliminated, and which must be considered. The life of the patient, while traveling, is to a very great extent beyond his own control; he is dependent upon the ideas and actions of strangers for his comforts and necessities. He is apt to become too greatly exhausted; seeing many different sights, and rubbing up against various sorts of people, stimulates his mental activity, and in consequence he is almost sure to over-exert himself. Then, again, he finds it very hard to control the character of his food, its method of cooking, or even the time of its serving. Again, as a stranger, he is more prone to such diseases as diarrhea and typhoid fever from change of drinking-water. He is also peculiarly prone to colds and rheumatic conditions from unexpected changes in weather from the lack of proper articles of clothing, from sleeping in damp, unaired beds, or unsuitable rooms. The schedules on which trains are run often make protracted hours of strain for him; the American sleeping car, with its stuffy holes, called by courtesy berths, filled with over-heated air, and probably surcharged with germs, all tend to reduce his power of resistance.

Physicians are particularly apt to prescribe ocean voyages for patients convalescing from some exhausing, acute disease. Here again, it must be remembered that the strain of ocean travel is peculiarly great. Life on the ocean is circumscribed, so that unless a patient is particularly fond of such life, the daily routine becomes extremely irksome and nerve-wearing, even in the pleasantest of weather, and on the best of steamers. I remember a case illustrating this tendency very markedly; a young man, recovering from typhoid fever, was ordered to take an ocean voyage by his physician. He had been growing very rapidly for the past few years, and had been studying very hard preparing himself for college, therefore he had been in an extremely depressed condition before typhoid fever developed, and the physician felt he should take a long time to recuperate, and consequently ordered a trip to Europe. The lad did well for the first two or three days, but then he began to develop signs of excitement which deepened into acute delirium, and when the steamer reached the port at Liverpool he had to be taken to a private hospital for the insane and his parents cabled for. This brought up the matter of steamer life for sick

people with the ship's surgeon, and he told me that he scarcely, if ever, had a voyage on which he did not have at least one such case. He said it seemed to him as if the medical profession looked upon sea life as a panacea for all ills, whereas, in his judgment, a person should be in pretty fair physical condition to take such a voyage. This was wholly independent of the terrors of sea-sickness, or the confinement produced by rough weather. He said that in his experience men who had been drinking heavily were peculiarly apt to take ocean voyages to sober them up; in a large proportion of cases, they developed delirium tremens. Upon investigating these cases, he found that these men, on sobering up from other sprees, had never had such attacks, and he felt justified in attributing their serious condition to the strain produced by ocean travel.

Other ship surgeons have confirmed these views, and there is no doubt that ocean travel is especially hard on the average landsman, sick or well.

European railway travel is also a hard strain upon the nerves and energy, for the details of travel have not been worked out carefully at all, the comfort of the passenger has not been considered, and the traveler every day meets with innumerable annoyances. I remember, in my own case, while traveling abroad for health, that many things occurred which were upsetting, exciting, and nerve-racking. Even the first-class coaches are stuffy, uncomfortable, and poorly ventilated; the annoyance of looking after baggage constantly is a source of irritation, and taken all in all a European trip is not to be entered upon lightly or unadvisedly by the average convalescent or ambulatory case.

In considering the character of cases which are to be benefited by travel, comes first those in which definite diseases exist. Of course, the dictates of common sense would keep at home the great proportion of acute cases; no one would be sent traveling while suffering from pneumonia, pleurisy, or kindred disease. When it comes to the question of travel as a cure for consumption, we come at once into a field for wide discussion. Undoubtedly, now-a-days, the average physician goes more into detail when ordering his tuberculous patient away from home. Formerly, the patient was simply ordered to go into the Adirondacks, to Colorado, or Southern California, and, with this advice, the physician felt that his duties ended. Now-a-days, the details of the patient's life must be taken up, point by point; the proper place for him to live must be carefully selected, and the question of his method of life, food, clothing, work, and recreation. The existence of and success of numerous sanitariums have demonstrated this fact, if there was any doubt in the matter. Ordinarily, we might say that the consumptive should not travel, if we mean by that term going from

point to point. The same problem arises in the consideration of chronic Bright's disease; a patient may be benefited by going away from home, or he may be irretrievably injured, but here again the question of travel should be largely interdicted.

Unquestionably, the great disease which has been treated by the prescription of travel is general paresis. This disease coming on generally in men, over forty years of age, as the result of overwork, over-worry, or dissipation, has been largely treated by ordering the patient away from home. The pleasure of travel, the change of life, the removal of the cause of the disease, have all combined to suggest to the physician that this is the ideal form of treatment. There has been a reaction, however, spreading through the medical profession in the last ten years against the use of travel in cases of paresis. Instead of doing good, the excitement of travel, the expenditure of nervous force, and the consequent exhaustion, hastens rather than retards the course of this insidious disease. Now-a-days, it is considered better treatment by the leading authorities in paresis to order the quiet of some secluded home in the country for such patients, or the systematic life to be found in a well-managed private hospital for nervous or insane patients, with the use of a modified form of "rest cure."

Undoubtedly, the ideal cases which are to be benefited by the pleasures and experiences of travel are those in which there is depression of the vital forces, rather than in actual disease. To people worn out by work, or worry, or a monotonous round of duties, travel is a peculiarly happy antidote. Of course, even here, as in all things, moderation must be practiced, and the travel should only be of sufficient amount to stimulate the patient without producing subsequent depressing reactions. To such cases as these travel is a perfect panacea.

ECTOPIC GESTATION.*

BY FRANK BURR TIBBALS, M.D.,

Junior Attending Surgeon, Harper Hospital.

It seems proven that, in the lower animals at least, conception normally takes place in the Fallopian tube, the impregnated ovum being passed onward into the uterus by the peristalsis of the tube and the movement toward the uterus of the ciliated epithelium. Ectopic gestation, then, as Kelly puts it, "is simply due to some interference with the normal downward passage of the fertilized ovum through the tube." However, it matters little whether the

*Read before the Detroit Medical Society.

spermatozoon usually meets its mate in uterus or tube, because when the ovum is not waiting in the uterus, with characteristic masculine impatience he starts up the tube to meet her. Hence any obstacles to the passage of the ovum become etiological factors in extra-uterine pregnancy. Among them may be mentioned previous tubal disease, gonorrheal or catarrhal, with destruction of the ciliated epithelium, thickening of the tubal wall, lessened peristalsis and contracted lumen, adhesions compressing or binding down the tube and producing a tortuous canal, or the existence of tubal polypi or diverticula, or of myomata obstructing the uterine outlet.

For the purpose of classification ectopic pregnancy is usually subdivided, according to the location of the embryo, into three groups, ovarian, tubal, and interstitial.

The occasional cases of abdominal pregnancy are simply tubal abortions where the placenta has become attached to the broad ligament, omentum, or elsewhere, and fetal development continues.

The ovarian type is rare, but has been demonstrated in some few cases. The interstitial, or tubo-uterine, type is also rare, and extremely dangerous because liable to early rupture into the peritoneal cavity, since the tube at its uterine attachment is incapable of much distention. Probably, however, in a considerable number of interstitial cases the fetus is pushed through into the uterus by its own development and terminates in uterine pregnancy or abortion. In the more common tubal type the arrested pregnant ovum lodges in the central part of the tube and continues to grow until its increasing size causes rupture of the tube. Rupture of the distended tube may take place anywhere from the fourth week to the fourth or fifth month. When the rupture is upward into the peritoneal cavity, sudden alarming, and often rapidly fatal, hemorrhage takes place. When downward into the folds of the broad ligament the hemorrhage may be circumscribed and checked, resulting in a hematocele, or the placenta may become attached, the embryo live, and pregnancy go on.

Naturally, then, the diagnostic symptoms of this accident of pregnancy divide into two groups; those before rupture, those after rupture. Theoretically we should be able to diagnose this condition before rupture; practically, the patient usually does not consult her physician until at least partial rupture has taken place, believing herself normally pregnant.

The symptoms before rupture, then, are those usual to early pregnancy—suppressio mensium, nausea, breast changes, and others, all of which we know are frequently unreliable. To

these are added, in ectopic gestation, the passage of the decidua vera, irregularity of flow, and tenderness or slight pain in one side of the abdomen. The decidua is frequently passed in shreds, and again as a complete cast of the uterus, thicker and more tenacious than the product of membranous dysmenorrhea. The decidua, when passed entire, should never be mistaken for anything else, but we may be deprived of this diagnostic assistance by the patient's belief that she is having a simple miscarriage, the products of which are at once thrown away.

Irregularity of the flow in a woman previously regular is, I think, the cardinal diagnostic point, and should always direct our attention to the possibility, if not probability, of a pregnancy outside the uterus. After missing one period, or perhaps without it, the patient begins flowing slightly at irregular intervals, sometimes profusely for a day or two, sometimes but enough to soil one napkin, and this irregularity persists until the tube ruptures. This symptom should always lead to a careful pelvic examination in the endeavor to make out the enlarged and growing tube. We have here to differentiate between tubal pregnancy and pyosalpinx or other pre-existing tubal disease. Given a patient with whose appendages we are familiar by previous examination, guided to re-examination by a history of irregular flowing, an enlarged tube should render diagnosis absolute. Tenderness and pain on one side of the pelvis, if a new symptom, is valuable when present, but is too frequently absent until partial rupture takes place.

The symptoms of rupture are unmistakable, a sudden attack of pain in the lower abdomen, profound shock, blanched countenance, purple lips, weak, thready, or rapid pulse, with facies denoting that indefinably anxious dread typical of sharp peritoneal irritation. These symptoms vary in degree with the amount of hemorrhage going on, improving in a short time if the bleeding is circumscribed or the rupture partial, continuing if the rupture is complete with free hemorrhage into the abdominal cavity. Under stimulation the pulse should show, within a half hour, whether operation must be performed at once or delayed a day or two for more thorough preparation of the patient. If the rupture is downward into the broad ligament the hemorrhage may stop, resulting in a hematocele, which may be approached by the vaginal route, but in all cases before and at rupture I prefer the abdominal route.

In *Harper Hospital Bulletin* for December, 1900, I reported two cases of ectopic gestation. To these I now add two other cases encountered during the current year. All four cases occurred in my own private practice, and hence illustrate the

liability of every one doing general work to meet similar cases, although doubtless my record of four cases in less than two years is above the average.

As an aid to the general discussion of the topic I wish to emphasize the salient diagnostic points of each case.

Case 1.—Mrs. L., a young bride of but a few months, was first seen when suffering from a sudden attack of acute colicky pain in the right inguinal region, with pale face, blue lips, cold extremities, but normal temperature and pulse.

Bimanual examination threw no light upon the diagnosis owing to the tenderness of the parts and the nervousness of the patient. There was, however, a history of menstrual irregularity with occasional passage of clots or decidual shreds. The attack subsided very quickly, but about ten days later recurred, and again a week later. During this time I made several attempts to prove my diagnosis of ectopic gestation by bimanual examination, but without success. At the third attack, however, with the counsel of Dr. W. F. Metcalf I gave her an anesthetic to aid examination, and removed her to Harper Hospital for immediate operation on the evening of August 5, 1899.

She went on the table with a pulse under 90, showing that no dangerous hemorrhage was going on. Operation showed a pregnant right tube ruptured only enough to allow a slight hemorrhagic ooze. As the right ovary consisted entirely of one small cyst and the left had undergone almost complete cystic degeneration, both appendages were removed. The patient made an ideal recovery.

Case 2.—Mrs. C., married two years, thinks she miscarried once a year and a half after marriage. I was called on March 12, 1900, to find her in collapse from severe abdominal pain of very sudden onset. The shock was profound, although the pulse showed no hemorrhage. She thought herself about to abort, as she had gone two weeks beyond her period and considered herself pregnant. She soon began to flow, and that evening passed a membranous mass with clots as evidence of abortion. This was, undoubtedly, a complete decidua. Although she had no more pain the abdomen remained so sensitive that I was unable to make a satisfactory examination. On March 22 I was again called in haste, to find a repetition of the former attack plus a rapid pulse, showing internal hemorrhage. Within an hour she was on the table at Harper, operation beginning with a pulse of 140. I found the abdomen filled with blood from a completely ruptured left tube, which was rapidly clamped and removed, the cavity cleaned out as thoroughly as was consistent with the condition of the patient, who had lost much blood.

She was transfused, the colon filled with saline solution and other means of stimulation freely used, and in a few hours she was out of danger. The temperature ran up to 102½° F. for a few days, owing to the absorption of some clots left behind, then fell to normal, and recovery was uninterrupted.

In the light of added experience I now feel that I should have diagnosed these cases positively at the first attack by the typical symptoms alone, without waiting to confirm my suspicions by the actual feel of the enlarged tube.

Case 3.—Mrs. D., aged 35; one child of seven years; not since pregnant. When first seen, on the afternoon of Feb. 22, 1901, she gave a history of menstrual irregularity since about Christmas time, and of two recent attacks of sudden shock and pain indicative of tubal rupture. I found a localized peritonitis with large infiltration on the right side of uterus and a condition generally septic, nausea, vomiting, distended bowels, furred tongue, with temperature of 100°, pulse 96. She entered Harper Hospital that evening. For the next two days her temperature ranged from 100° to 103.6°, with pulse from 100 to 120, frequent chills with profuse perspiration, denoting the septic pelvis.

It being evident that she would die from sepsis unless something could be done, on February 25 I opened the cul-de-sac, washed out a large quantity of foul broken down blood, removed the right ovary and tube, the latter ruptured but not bleeding, packed and drained thoroughly. Within the next few hours both temperature and pulse dropped to normal, vomiting stopped, distention abated, and her condition in general was much improved. After 24 hours, however, a general peritonitis developed, from which she died on March 2. This patient would doubtless have been saved by an early diagnosis.

Case 4.—Mrs. N., aged 35, married 17 years; three children; one miscarriage four years before. Consulted me on April 13 saying that, although her March period was on time she had continued to flow at intervals since. Examination disclosed no cause in the uterus for the irregularity of flow. I sent her to bed with ergot and viburnum as medication and did not see her again until May 4th, and then several times during the two weeks following. The flow continued at intervals and in varying amount, never being entirely absent for more than a few days. She had no nausea, breast changes, pain or passage of decidual shreds, and did not believe herself pregnant, since her last intercourse was late in January, her February flow was normal, and her March flow on time, though abnormal. The only diagnostic point of value was the irregular flow without apparent cause, until within the last two weeks I was able to detect an enlarge-

ment in the left pelvis, which I considered to be a tubal pregnancy, and urged operation, which I performed on May 24th, at the Detroit Sanitarium.

Dr. Donald MacLean, who saw the case with me, agreed in the advisability of an exploratory operation, although perhaps accepting my diagnosis with mental reservation. The left tube was found pregnant, unruptured, free of adhesions, and was quickly removed, and a happy optimistic prognosis concurred in by all present. The personal equation of the patient, however, must always be considered in surgical work, and in this case clouds of gloom quickly hid the sunshine of egotistical pride in a good diagnosis and successful operation. The patient was an extremely nervous neurasthenic, and, during her 36 hours of preparation in the hospital, suffered much in anticipation of the coming operation. After one nearly sleepless night a violent thunder storm during the evening before operation induced a sharp attack of fermentation in stomach and upper intestines, and she passed the night in great distress, belching gas in large amount. The fear of rupture impelled me to go on with the plans for operation, but the pre-existing gaseous distention caused her death. It was all confined to the upper abdomen, but all attempts at relief failed; a condition of dynamic ileus developed, and death ensued on the morning of the fourth day from hemorrhage from the over-distended stomach.

In reporting these four cases I have aimed to bring out the cardinal diagnostic points rather than the technique of operative treatment, because an early diagnosis at the hands of the practitioner who first sees the patient offers the best chance of life saving in this most dangerous condition.

The first two cases illustrate admirably the typical symptoms; the third case the hazard of delayed diagnosis; the last case the fortunate opportunity for diagnosis before rupture as well as the uncertainties of surgery.

Statistics recently collected by the Vienna Medical Council show that the numbers of medical students in the Austrian universities during the last ten years were as follows: 1891-92, 5,275; 1892-93, 4,193; 1893-94, 4,985; 1894-95, 4,686; 1895-96, 4,297; 1896-97, 3,954; 1897-98, 3,604; 1898-1899, 3,207; 1899-1900, 2,555, or 48 per cent. The number of degrees of Doctor given during the same years was as follows: 721, 716, 764, 857, 801, 724, 732, 675, 714, 603. Therefore the number of graduations has not fallen off materially.

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

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EDITORIAL ARTICLES.

MUNICIPAL MEDDLING IN PHARMACEUTICAL SCIENCE.

A much dreaded but not entirely unexpected calamity has occurred. The death-roll from tetanus in St. Louis which has resulted from the administration of contaminated serum can only be attributed to municipal irresponsibility and criminal carelessness.

What is the lesson taught us by these disasters? First and foremost surely, the illimitable inanity of entrusting the manufacture of substances in which absolute sterility is indispensable to such fortuitous talent as may be produced by socialistic municipalities. Shall the municipal stable-boy, possessing qualifications that could but make him moderately successful in his self-limited career, be entrusted with the care and management of animals destined to be used for the production of serum? Shall the ostler of the poor commission, whose stock of scientific knowledge almost ends in an appreciation of the differences constituting a mare and a horse, be allowed with unwashed hands and illiterate soul to manipulate the bleeding of an animal for physiological purposes? Shall all the numerous incompetents who have "jobs" in public departments by virtue of "pulls" on partisan officials, be allowed to manufacture dangerous medicinal agents? Let it be decided once for all if boards of health as they are now constituted shall be allowed to fulfil duties for which they are no better equipped than they are for the interpretation of the Chinese hexagrams.

It is needless to say that had the serum used at St. Louis been prepared in accordance with the precautions prescribed by modern pharmaceutical science these accidents could never have occurred. To call such incidents accidents is in fact an unjustifiable euphemism. A grievous injury has been done. Parents have been bereft of their children. Human life has been ruthlessly

nipped in the bud of its promise. Indignant victims loudly demand that this shall not again befall them. An injury has been done which any indifference to its removal can only be considered to sanction and condone.

Vaccination and serum-immunization are among the most cherished triumphs of modern medicine. Vaccination has been but tardily accepted, and it is such unfortunate occurrences as these which have taken place at St. Louis which are largely responsible for the creation of popular prejudice against these beneficial procedures. A repetition of these disasters can only lead, as it has led in England, to the creation of an antivaccination party, or to an anti-antitoxin party, which would be a sore affliction for infant life.

Municipalities have usually quite enough to do to keep themselves ordinarily respectable, without going into hardware, furniture, or pharmaceutical business. The manufacture of common honesty in official life is at least an indispensable qualification if they desire success in the pharmaceutical laboratory, and until municipalities show themselves more abundantly provided with incorruptible officials the manufacture of serums and vaccines is as much beyond their capacity as is the mensuration of the mountains of the moon.

EDITORIAL NOTES

Epidural Injections for Incontinence of Urine.

Two French physicians have recently treated with marked success 15 cases of incontinence of urine by epidural injections of cocaine or serum. One paraplegic was made actually continent during the day-time. A case of vesical incontinence from tuberculosis of 8 months' duration had remained continent for two months. Five cases of infantile incontinence had been cured immediately by one injection of serum. These remarkable results prove that in all cases of incontinence dissimiliar in appearance, there is a common factor, inhibition of the sphincter.

First-aid Packages in Railroad Accidents.

The recent deplorable accident on the Wabash Railroad which occurred near Adrian, Mich., in which nearly a hundred lives were sacrificed, brings to mind how inadequately the railroads of this country are prepared to care for the injured in the event of a

collision. Would it not be a good plan for a railroad to purchase a large number of the so-called "first-aid packages" similar to those at present used in the army? These packages could be distributed to proper disbursing officers to be placed at stated intervals along the line of the railroad. Conductors, brakemen, in fact the entire crew of a train, should be given one first-aid package, which he be required to carry on his person, together with a set of rules giving instruction as to the care of the wounded. Passenger coaches should contain a small chest with sufficient first-aid material to care for at least a dozen people.

Municipal Stables as Pharmaceutical Laboratories.

The investigation relative to the St. Louis cases of tetanus following the use of diphtheria antitoxin made by the board of health, is said to show that the horses from which the serum was derived were kept in a stable connected with the city poor house, and that 8 or 9 of these horses died of tetanus since the antitoxin was made. This is something for people to think about. The poor-house stable seems scarcely a fitting place for the prosecution of important pharmaceutical labors.

Tuberculous Urine.

A French investigator shows that in 37 urines in which the bacillus tuberculosis could not be found inoculation experiments proved 23 of them to be positively tuberculous. This is an important clinical fact, calling for extended use of the laboratory.

ITEMS AND NOTES.

JOHNS HOPKINS Medical School has 75 freshmen, the largest class admitted.

THE University of Pennsylvania has received $20,000 from Dr. Geo. Woodward for the establishment of the Woodward Fellowship in physiological chemistry.

THE *Electro-Therapeutic Journal*, devoted to medical electricity and radiography, has been announced by its publishers, A. L. Chatterton & Co., New York City.

QUARANTINE authorities of the United States and Canada are taking the necessary precautions against the introduction of the bubonic plague from the infected ports of Europe.

PROFESSORS EHRLICH AND WEIDENRIECH have been entrusted by the city of Frankfort, Germany, with a fund of $125,000 to use as an endowment for research in regard to the etiology of cancer.

DR. HOWARD A. KELLY has 159 editions of the works of Hippocrates. This is, without doubt, the finest and most complete collection of the writings of the "Father of Medicine" in America, if not in the world.

A PRIZE has been offered by Dr. F. Peterson, of New York City, under the name of the Craig Colony prize, for the best original essay on the treatment of epilepsy. The prize is open to universal competition, but the essay must be written in English.

THE directors of the Rockefeller Institute for Medical Research have appropriated $500 for research to be carried on in the pathological laboratory of Western Reserve Medical College, Cleveland, under the direction of Dr. W. T. Howard, professor of pathology.

A FRENCH exchange states that a new means of defrauding the public has recently been discovered in Paris. An instrument was made which produced a wound resembling the bite of a horse, and damages were claimed from the owner of the horse incriminated as the assailant.

THE International Congress of Physiology convened at Turin September 17, with an attendance of 300 members. Professor Forster, of Cambridge, was elected perpetual honorary president. Bowditch, of Boston, was elected president, and Chauveau, of Paris, second president.

At the recent bicentennial celebration of the University of Yale the honorary degree of LL.D. was conferred on Dr. J. S. Billings, director of the New York City Library; Dr. D. W. Finley, professor of medicine in the Aberdeen University; Dr. W. Osler, of Johns Hopkins University; Dr. Ira Remsen, president of Johns Hopkins University; Dr. Wilhelm Waldeyer, professor of anatomy in the University of Berlin.

Sixty persons of Hamburg interested in promoting the study of the history of medicine and the natural sciences have organized, according to the *Journal of the American Medical Association*, an association for this purpose. The annual fee is ten marks. The treasurer is Dr. Emil Wohlwil, of Hamburg. Dr. Peyers, of Amsterdam, editor of *Janus*, is one of the officers. The society will commence the publication of a periodical in 1902. Societies, institutes, libraries, etc., as well as individuals, are cordially invited to membership.

Drinking water in Paris has been, says an exchange, a subject of considerable discussion for some time past. For months the idea has been to bring the supply from Lake Geneva, but the latest plan, estimated to cost 120,000,000 francs, has been to utilize the waters of the Loire. For the execution of this plan, the water would have to be drawn from Lac d'Issaries, some miles from the source of the Loire. The lake would be transformed into an immense basin, containing about 90,000,000 cubic meters of water. An aqueduct would then carry the water to the city, passing through the valleys of the Loire, the Yonne and the Seine.

Professor Gustav Veesenmeyer, who has just died at Ulm at the age of 86, had a diversified career. He first studied theology and Oriental languages under the famous scholar, Gesenious, at Halle. After completing his studies he became tutor to a young man whom he accompanied to the University of Heidelberg. There he studied medicine and took his doctor's degree in 1842. He practiced his profession first in Germany and afterwards in Russia, on the Kirghiz Steppes and at Kasan. In 1853 he returned to Germany and became Professor in the High School of Ulm. In 1865 he was appointed Librarian to the Public Library of that city.

The autopsy on Czolgosz's body, who was executed at Auburn Prison October 29, was conducted, according to an exchange, by Dr. Carlos F. Macdonald, the expert alienist, and ex-president of the New York State Lunacy Commission; Dr. E. A. Spitzka, of New York; and Dr. Gerin, the prison physician. Almost their entire attention was directed toward discovering, if possible,

whether Czolgosz was in any way mentally irresponsible. But after a three hours' careful examination of all the bodily organs, they all concurred that the findings revealed a perfectly healthy condition of all these organs, including the brain. They declared that the brain was even slightly above the normal, and it was merely from perversion of intellect, not from any lack, that he committed the crime.

THE Minister of the Interior has asked for the opinion of the Académie de Médecine of France concerning the utility and advisability of a sanatorium for lepers, the majority of whom have contracted the disease in the colonies and abroad as missionaries, nurses, soldiers, sailors and colonial officials. The disease is, according to *American Medicine,* common from the Senegal to the Congo, in Tunis and Algiers, in Madagascar and Ile de Bourbon, in the small French colony in New Brunswick, and in the Hawaiian Islands, and is chiefly endemic in those districts where the people are more or less restricted to a fish diet, and where intermarriage is the rule. The Academie feared that sanatoriums without proper surveillance would be of no benefit and the necessary surveillance would require changes in the law.

THE University of California, in its aim to raise its medical department to a high standard, has, says *American Medicine,* taken steps to advance the requirements for admission. Beginning with the academic session of 1905-6, the Medical Faculty will demand 2 years of college work from all applicants for admission, and satisfactory evidence must also be presented that during these 2 years the applicant has completed a prescribed course in general inorganic chemistry, quantitative analysis, organic chemistry, general physics, and physical measurements, a general course in zoology, giving a knowledge of the main facts of biology, covering the structure, life history and vital actions of selected types of animal life, the chief points of cytology and development, as well as a clear conception of the doctrine of descent, laboratory work in zoology with objectivity and the training of the powers of observation as special features, and constant practice of recording scientific phenomena by word descriptions and drawings. In addition to this scientific course, there must be 3 hours a week throughout 1 year of English composition, and a reading knowledge of scientific French and German. Applicants for admission to the medical department will be urged to add to these required courses elective courses in advanced mathematics, comparative anatomy, embryology, laboratory work in organic chemistry, and advanced work in physics covering the theory of solutions.

THE following New Orleans physicians have been selected, says the *Journal of the American Medical Association,* as civilian members of the Yellow Fever Institute, created by act of Congress in March last, and placed in charge of the United States Marine Hospital Service: Drs. Felix Formento, Henry A. Veazie, and Lucien F. Salomon, and Professor Beyer of Tulane University. The institute will be divided into four sections, the first of which will concern itself with the history and statistics of the disease, including the relation of the slave trade and modern sanitation. Section B will be occupied with the cause of the disease, while Section C will specially study its transmission by the mosquito. This insect will be studied from all points; its life and habits will be thoroughly investigated, and the question whether its progeny may be infected through the parent insect and whether infection may be conveyed by other than its means worked out. Section D will consider quarantine and treatment. The main lines of study of this section will be whether disinfection of baggage is necessary to prevent the spread of the disease; the treatment of the patient, the immunity of individuals and of races, individual prophylaxis and communal prophylaxis by means of sanitation.

ACCORDING to the *Journal of the American Medical Association,* two important historical works have recently been published in Paris on the subject of "Women in Medicine"—one by Melanie Lipinska, and the other by Marcel Baudouin. The latter was undertaken in honor of the semi-centennial of the admission of Elizabeth Blackwell to the medical profession, January 23, 1849. Woman's progress during the last decade has been remarkable. In Russia there has long been complete equality between men and women physicians, and women have recently won their cause in Hungary, Austria and Germany, and the prejudices against the admission of women to the medical profession are rapidly subsiding even in France. Spain still refuses to recognize medical women, although two and three centuries ago several Spanish women acquired some fame by their practice of medicine. Women physicians are now recognized in Belgium since 1890, in Italy since 1878, in Portugal since 1886, in Mexico since 1887, in Sweden since 1870, in Switzerland, Roumania, Bulgaria, in this country and Australia. Baudouin relates the history of Henrietta Faber, who practiced medicine in Havana for years, disguised as a man. She married in 1820 and was at once prosecuted and condemned to ten years of imprisonment. Medical women were numerous in ancient Greece and Rome, and in Italy during the Middle Ages.

NEW PUBLICATIONS.

THE EXANTHEMATA.

This valuable work on the exanthemata will be welcome to all practitioners by whom the difficulties of early differential diagnosis have been encountered. It is often impossibe to impart to students sufficient instructions by ocular methods in the dangerous communicable diseases, the limited number of special wards and hospitals for the reception of these cases rendering the subject one in which it is difficult to obtain a high degree of familiarity.

The excellent plates illustrating the work will be found of great advantage to the student, and the complete textual descriptions of the various diseases render the author's work one deserving extended patronage on the part of the medical reader.

The Exanthemata. By William Thomas Corlett, M.D., L.R.C.P. Lond., Professor of Dermatology and Syphilology in Western Reserve University. Illustrated by 12 Colored Plates, 28 Half-tone Plates from Life, and 2 Engravings. Sold only by Subscription. Price, Extra Cloth, $4.00 net, Delivered. Philadelphia: F. A. Davis Co.

ELECTRO-THERAPEUTICS.

There is no better token of the progress being made in Electro-therapeutics than that afforded by the growth and extent of medical literature bearing upon the subject. In the pages of this work is reflected the thoughts and aspirations of many investigators. The new second edition contains new articles relating to the galvanic current, the electrical treatment of aneurism, Roentgen rays and the treatment of cancer by cataphoresis of mercury. The remaining articles have been rewritten and brought into accord with present advanced knowledge.

Electro-Therapeutics. By Numerous Associated Authors. Edited by Horatio R. Bigelow, M.D. Second Edition, Thoroughly Illustrated. Philadelphia: F. A. Davis Co., 1901.

THE MEDICAL NEWS VISITING LIST.

The season for renewing visiting lists brings round many familiar publications. Among these that bearing the title above will be found to possess the merits usually sought for in such publications. It is convenient in form and arrangement.

The Medical News Visiting List for 1902. Seal Grain Leather, $1.25. Thumb Index, 25 cents extra. Philadelphia and New York: Lea Brothers & Co.

THE MEDICAL RECORD VISITING LIST.

This is a visiting list which happily combines the merits of simplicity with an extensive amount of literary matter of a reference kind. It may be fairly pronounced one of the most successful of such publications.

The Medical Record Visiting List, or Physicians' Diary for 1902. Revised Edition. New York: William Wood & Co.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Two Cases of Disarticulation at the Ilium.

Gallet (*Quarterly Medical Journal*, Nov., 1901) performed the operation on two cases. He says that eight cases of the inter-ilio-abdominal operation have been published; since then other three operations bring the total to eleven cases with eight deaths —a sufficiently high mortality. Gerard, at the French Congress of 1895, suggested the name of interpelvic amputation or supra-iliac amputation of the lower limb. In most cases the operation has been done for osteo-sarcomas of the pelvis or end of the femur; it has also been done for extensive traumatism of the iliac bone, or for extensive tuberculous invasion of this bone. Of Gallet's cases, one was for extensive disease of the ilium from old coxitis, for which excision had been unsuccessfully done, and the other for osteo-sarcoma of the thigh and pelvis. There are two methods of doing the operation, viz., Jaboulay's, in which the disarticulation of the iliac bone with the limb is done at one sitting; and that of Girard, in which the disarticulation of the ilium is done some time, even months, after the disarticulation of the thigh; perhaps the latter proceeding is less serious, but it is not always applicable. No definite plan of cutting flaps, etc., can be followed, as the tumor or the traumatism causes the operator to get his incisions where possible. The most important point is preventive hemostasis. The vessels must be tied. But how to tie them? He thinks it is better to tie the external and internal iliac rather than the common iliac artery, because if the common iliac be tied the ligature might be placed near the aorta, and a clot forming near the bifurcation might lead to gangrene of the other lower limb. Nance had a case where the healthy limb showed gangrene and died twenty days after the operation. Both of Gallet's cases died, although no great quantity of blood was lost and the operation was done rapidly (within an hour), and they presented symptoms like those of patients who die after splenectomy.

Disinfection of Instruments.

A number of comparative investigations have recently been carried on by J. H. Pollock (*British Medical Journal*, Nov. 9, 1901) on the various methods of disinfecting cutting instruments.

He has employed pure alcohol, diluted alcohol, spiritus saponis kalimus, hydragyri perchl. (1 in 1000 and 1 in 5000), carbolic acid (1 in 50 and 1 in 20), and formalin (1 in 500 and 1 in 1000) as chemical means of sterilization; mechanical cleaning with sterile water, with alcohol, and with spiritus saponis; and sterilization with boiling water and with boiling soda solution. He used a shoemaker's awl as a test instrument and infected this with pus containing virulent staphylococci so that the conditions met with in surgical practice were imitated. Only in a few cases did he use anthrax spores. In his first series of experiments he found that all the chemical agents, specially formalin, were capable of destroying staphylococci in 25 minutes. In the second series he determined a number of colonies which grew after treatment with formalin for 5, 10, 15, 30, 45, and 60 minutes, and two and three hours. The results show that formalin is of no use for the sterilization of instruments. Carbolic acid (1 in 20) and spiritus saponis kalimus were capable of destroying all bacteria used (staphylococci and streptococci) in 5 minutes, and in the further row of experiments the number of colonies found after treatment with these agents for 1, 2, 3, 4, 5, 6, and 8 minutes show that carbolic acid is only slightly more antiseptic than soap spirit. Mechanical cleaning with spiritus saponis for 30 seconds proved sufficient to sterilize the awl, while when water or alcohol was used a longer time was necessary. He concludes that: (1) Boiling in soda solution in a closed vessel is the best means of sterilizing, but sharp instruments are blunted by the process. (2) Soap spirit is capable of sterilizing sharp edged instruments in 15 minutes without blunting or otherwise affecting them when infected with ordinary pyogenic organism. (3) Mechanical rubbing with soap spirit for 30 seconds is an excellent procedure. He further states that in actual surgical practice he has had every reason to be satisfied with this method of cleaning sharp instruments.

The Surgery of Pulmonary Abscess, Gangrene, and Bronchiectases Following Pneumonia.

Both acute and pulmonary abscess and gangrene following pneumonia may, according to D. N. Eisenwrath (*Philadelphia Medical Journal*, Nov. 9, 1901), develop immediately, and chronic and simple putrid abscesses, with or without bronchiectases, are more remote sequelæ of both croupous and influenzal pneumonia, especially the latter.

The most valuable points in the history are the etiology; the

sudden expectoration after an apparent crisis of pure non-odorous pus in the gangrenous variety. In the chronic cases there is usually a history of pneumonia having preceded the condition at some considerable time previously, followed by expectoration of large quantities of pus, with exacerbations of fever, accompanied by emaciation and frequently clubbed fingers, etc.

Signs of cavity are seldom present. The moist râles, especially of large metallic character, are the most reliable physical signs. The character of the sputum is also of great value, whether purulent or fetid. Elastic fibers are more frequently found in gangrene than in abscess, being comparatively rare in the latter.

The *x*-ray is only of confirmatory value, as it shows chiefly thickened areas of lung, and should not be absolutely relied upon. When it shows a shadow at the same point where the physical signs are present, it is of value.

The prognosis of abscess and gangrene following pneumonia, medically treated, is not very favorable. Many cases of both varieties can be successfully treated in a surgical manner by pneumotomy. One of the greatest difficulties is the exact localization of the focus. The statistics which the author has gathered show a marked increase in the percentage of recoveries, especially in the cases which have been reported within the last five years. The prognosis for the chronic cases is not so favorable. The patients are usually operated upon when in an emaciated condition, and the walls of the cavity are often rigid, so that they do not contract well after being drained, and the free communication of a bronchus with such cavities is also a great barrier. But statistics in this variety are also improving, especially when combined with excision of the affected portion of the lung.

The Differential Diagnosis of Tumors of the Bladder.

In an article on the "Diagnosis of Distress of the Urinary Bladder," J. R. Mather (*American Medicine*, Nov. 30, 1901) says that in summing up the points of differential diagnosis of tumors of the bladder the following are the principal facts to consider:

The benign villus appears between thirty and forty-five. The initial hemorrhage is rarely severe, fragments are often evacuated, and the prognosis as regards length of life is good.

The malignant villus appears between fifty and sixty, hemorrhage is very rarely severe, fragments evacuated are common, and the average life is about eight years.

The bald malignant appears between fifty-five and sixty-five, hemorrhage is commonly severe, fragments are rarely evacuated,

and the average life is a little over two years. The softer tumors have longer periods of hemorrhage, while the denser ones exert their energy in infiltrating the vesical wall.

"Most tumors, whether benign or malignant, terminate the existence of the patient by inducing renal complications" (Fenwick).

The larger and thicker the stem or pedicle of the tumor, the more malignant it is liable to be and the sooner will result infiltration of the bladder wall, followed by irritability, pain, cystitis, pyonephrosis, and death.

Tuberculosis of the Peritoneum.

W. Neff (*American Journal of Surgery and Gynecology*, November, 1901) says that tubercular peritonitis is a surgical disease, and should be treated surgically and not medically, for the simple reason that when treated medically patients die, but when treated surgically a cure is effected in a large proportion of cases, and a marked improvement follows in all. The proper treatment is abdominal section rapidly and carefully performed; the danger from the operation is very slight, the mortality being less than three per cent. Of the many theories advanced to account for the cure of these cases, the antitoxin theory of Gatti seems to be the most rational. It is not unlikely, however, that the good results attained are due to a combination of several of the causes assigned. Sepsis is not apt to occur on account of the pathological changes that have taken place in the peritonitis. Antiseptics are useless, and drainage should not be employed, for it is apt to leave a permanent fistula. Most of the deaths after the operation have been due to the general tuberculosis, or tuberculosis of some other organ. The writer says that the successful treatment of this disease depends upon the diagnostic ability, good judgment, technique, and skill of the man behind the knife.

MEDICINE.

Bier's Congestion on the Development of Bone Callus.

Bier (*Medical Press*, Nov. 20, 1901) gives an account of his results in a series of experiments conducted at the "Wiener Univeritat" under Professor Paltauf, and with the assistance of Professor Biedl.

The object of the experiments on animals was to prove to their own satisfaction the correctness or incorrectness of Bier's

theory of venous congestion, or "stanungshyperaemie," having any practical value in local tuberculosis. A close examination of the morbid changes that take place in these animals when under experiment positively proves the complications that obscure any attempts at elucidation. The results, however, are somewhat satisfactory, and plainly demonstrate that the influences in operation that cause the increase of tissue must be of an antiparasitic nature, and that the inflammation is an aseptic one. It is the physiological change that takes place in the repair of fractured bone or cartilage.

Since the days of Dumreicher, similar empirical practices have been carried out by bandages to consolidate pseudarthrosis, while Nicoladini aimed at nutritive irritation of the tissues, which produced a hyperemia.

Bum's experiments were first conducted on guinea-pigs, and later on dogs. The tibiæ were diaphysially fractured and "gypsum" bandages applied. The right and left were symmetrically broken, so that observations could be compared on each leg. The right leg was daily congested for one or two hours just above the knee-joint. Some of the animals died, while others were killed. On the congested side this inhibition of serous fluid was extensive in the subcutaneous intermuscular fibrous tissue of the peripheral parts, with great increase of callus and restriction of bone union. He showed sections which demonstrated extensive calcification and ossification of the periosteal callus.

Glycosuria in Mental Diseases.

Raimann (*British Medical Journal,* November 9, 1901) contributes, from the clinic of Wagner in Vienna, an important article based on the study of 103 patients suffering from various forms of idiocy and mental disease, to determine the capacity for assimilation of sugar in the economy, and to ascertain the degree to which this may be lost in mental diseases. Control experiments were made first on healthy subjects, who gave results showing that, after ingestion of sugar, nearly the whole was assimilated and that the traces of sugar met with in the urine were small (less than 2% as a rule) and exhibiting little variation. In mental disease the power of assimilation was weakened or disordered, and in some a considerable excretion of sugar occurred in the urine. The chief conclusions were as follows: (*a*) In idiocy the assimilative capacity for sugar was high, and the same was the case in paranoia and epilepsy. (*b*) In acute mania the assimilative capacity was further slightly increased, and this was more so in the case of alcoholics under abstinence. (*c*) The assimilative capacity for sugar was low in senile dements, and in cases of

acute mental confusion (acute dementia) of paralysis. (*d*) *It* was especially low in cases of melancholia and of alcoholic delirium. (*e*) Diebetes might and did occur in insanity. Thus amongst the 103 patients there were two diabetics, and one of these (a paranoiac) showed an excessively high degree of sugar. (*f*) In a general way, out of a total of 103 patients examined, 14 (exclusive of the 2 diebetics above alluded to) showed some degree of glycosuria. (*g*) The assimilation of sugar is a general metabolic function, and its disturbances in the insane are due to the action of endogenous or exogenous toxic agents or poisons absorbed into the body.

Intermittent Nervous Affection of Malarial Origin.

Busquet (*British Medical Journal,* May 10, 1901) relates the following case:

A soldier, aged 28, entered his hospital ward on May 16th, with the diagnosis of malarial anemia after a sojourn of two years in Madagascar. No morbid antecedents, no syphilis, no alcoholism, and no history of urinary incontinence during childhood. The patient had noticed that at the onset of each malarial attack he passed water involuntarily, and that he did not regain control of the bladder till his temperature again became normal. During his stay in hospital he had four attacks of ague, May 16th, June 10th, June 26th, and July 16th. Incontinence of urine occurred on each occasion, lasting five days the first time, eight days the second, and three days each on the third and fourth occasions. During the second attack incontinence of feces also occurred and lasted for four days. The lesser duration during the last two attacks was probably due to the administration of large doses of quinine. Other nervous symptoms accompanied the incontinence, such as muscular weakness and rhythmical tremor of the right arm and leg. Romberg's sign was not present, and there were no sensory phenomena, hysterical stigmata, or retraction of the field of vision. It is reasonable, then, to suppose that the symptoms were due to the development of the malarial parasite in the small vessels of the brain or spinal cord.

Diplococcus Semilunaris, a Concomitant of Tuberculosis.

Edwin Klebs (*Münch. Med. Woch.,* Oct. 1, 1901) describes an organism which, during the past three or four years, he has so often found in connection with tuberculosis that he decided to cultivate it and make some animal experiments. After disin-

fecting the mouth he has obtained it in pure culture from the tonsils. He believes that the power of resistance of the individual can be determined by the number found. When found in abundance, it indicates a bad prognosis and diminished resistance power. Not only is this true for pulmonary tuberculosis, but also in bone and joint affections. In the latter, especially after the tubercular process has subsided, diplococcus abscesses form very readily. It also developed luxuriantly in all tubercular affections of the skin. Other than in tubercular processes, it is met with in the human body, in inflammatory joint affections, and may be related to the so-called germ of articular rheumatism. He also demonstrated its presence in the crushed head of the common house-fly. He describes the morphology of the germ and illustrates its pathogenic nature by reporting some animal experiments. In two cases in which it accompanied tuberculous adenitis and pulmonary tuberculosis, he points out its presence in man. These mixed infections are very marked in bone and joint affections, which grow worse when larger numbers of the diplococcus semilunaris are present.

A Case of Anthrax.

Fr. Schultze (*Deut. Med. Woch.*, Oct. 3, 1901) reports the case of a butcher who was infected while skinning a cow, which he afterwards learned had died of anthrax. Nine days later a small, itching, and burning pustule developed below the left eye. About the pustule the skin became reddened, and then the eyelids began to swell rapidly. A diagnosis was then made of erysipelas. The eyelids of both eyes became so edematous that they could not be opened. Under the left eye a small ulcer with indurated edges was discovered. The pulse was 140; the spleen not noticeably enlarged; the urine contained albumin, many hyaline casts, and kidney epithelium. There was considerable diarrhea. Microscopical examination of material from the ulcer revealed anthrax bacilli. The edema spread rapidly, involving the entire face and neck. In a few days the temperature became high; there was severe dyspnea and delirium which lasted till the eighth day, when the temperature dropped, and a line of demarcation formed about the necrotic areas. At the end of six weeks the patient was discharged, after having had a plastic operation for ectropion. The treatment could not be very radical owing to the location of the disease almost involving the eyes, so treatment locally was simply applications of alcoholic bichloride solutions (1:1000). Internally, quinine in five-grain doses was given every three hours during the fever and naphthalin for the diarrhea.

The Personal Factor in Tuberculosis.

Sir Dyce Duckworth (*Medical Press and Circular*, Nov. 20, 1901) says that amidst the enthusiasm with which the recent momentous discoveries in the field of bacteriology have been received he cannot but feel that some important, although older, doctrines have been lost sight of. Respecting the modern views as to the nature of tuberculosis the author says that too little regard is now paid to the peculiarities of the host and too much to those of the infecting parasite. Duckworth says that it is obvious that there are at least two pathogenic factors to be regarded in any case of tuberculosis: (*a*) the host, and (*b*) the infecting parasite. Younger pathologists "reckon without their host." If both factors are recognized as clinical medicine requires, it becomes obvious that much of the preventive procedure against tuberculosis must relate to the personal factor, and that our duty is to fortify the host against invasion as well as to intercept and destroy the invaders. It is probable that the best preventive methods will be found in strenuous efforts to render such persons as are prone to infection as immune as we can make them by securing for them appropriate dietary and the hygienic environment. The writer makes a protest against the modern idea of "curing" tuberculosis. All that we can do is to place the patients in conditions favorable to an arrest of the process.

The Condition of the Blood and Marrow in Chronic Arsenical Poisoning, with Special Reference to the Occurrence of Cutaneous Pigmentation.

J. C. Muir (*Journal of Pathology and Bacteriology*, November, 1901) has written an essay which bears upon the problem of the relationship existing between the hemoglobin of the blood and the pigment of the skin. He says that the blood of arsenical patients having deep cutaneous pigmentation is decidedly richer in red cells and hemoglobin than that of similar slightly pigmented or unpigmented cases. That this disproves the almost universally accepted hypothesis that the pigment is due to the destruction of hemoglobin or red cells and is evidence for thinking that the melanin of the skin is an important element in the production of hemoglobin. That in human beings arsenic causes a decided erythroblastic reaction in the marrow of the long bones; that a slighter but distinct leucoblastic reaction also occurs which may be in part or even wholly due to accompanying tuberculosis. That an erythroblastic function of the marrow is more easily stimulated in the presence of a large store of cutaneous melanin.

The Treatment of Eclampsia.

From October 1, 1895, to October 1, 1900, 143 cases of eclampsia came under observation, writes a correspondent of the *Medical Press and Circular,* November 1, 1901, in the Leipsic University Frauenklinik.

In the period there were 1,902 labors, so that the complications occurred in about 2 per cent. of the cases. In Olshausen's Klinik in Berlin there was a case in every 21.6 labors, equal to 4.6 per cent.

The treatment consisted in quick but gentle emptying of the uterus under an anesthetic. For eclampsia in the after-birth period the expectant principle was carried out. Manual removal of the placenta was only practiced in a single case. Dilatation of the cervix was effected either by gradual dilatation by means of elastic bags or by incision, or by both methods combined. The incisions were made by grasping the cervix or edge of the os by two Billroth pressure forceps and cutting through between them. In this way the cutting is easier to do, and by leaving the forceps on for some little time the bleeding is usually slight. The incisions are not generally sewn up after delivery has taken place. With the fetal head high up and freely movable turning was generally preferred. When it was found that the child was dead whether before or during delivery perforation was always effected. If the attacks followed one another very rapidly and no great amount of blood had been lost, venesection was performed. Along with the venesection saline infusions were made. Morphia and warm baths were given in a few cases. No fluids were given to the patient to swallow whilst unconscious, but the fauces were frequently washed out. The treatment described was carried out in all the writer's cases, and it did not fail in any instance. In a large number of them the whole process of delivery was completed within the hour. The author acknowledges that the method has risks of its own, but maintains that such a serious condition as eclampsia justifies a certain amount of risk. The prognosis is much more favorable than in Cæsarian section. As regards maternal mortality he claims that it will compare favorably with that attending any other mode of treatment.

The Diet Treatment of Epilepsy.

Bahnit (*Medical Press,* November 13, 1901) gives an account of the great success he has himself obtained with the dietetic

treatment of epilepsy. When it can be said that in an institution in which about thirty attacks per day occurred among the inmates, and that by diet treatment alone this total of attacks was reduced to two to three in the day, it may fairly be claimed that the method is deserving of some consideration. The method described is simplicity itself, but unfortunately there will be difficulty in carrying out the treatment in a trustworthy manner except in institutions where all is under control.

1. The first proposition is that a diet poor in chlorine can and should be carried out in all cases of epilepsy.

2. That it can best be carried out in a sanatorium.

3. That it should be strictly carried out in all cases until the disease has become thoroughly understood.

4. Along with the diet poor in chlorine a small quantity of bromine should be given.

5. That the bromine is best introduced in the food. It is recommended that two to three grammes of bromine made up in the bread in which the bromide is made to replace the usual sod. chloride be given daily.

6. The favorable effects of the treatment lie mostly in the increase of action of the bromide. Cases to which the bromide was given without deprivation of salt did not improve much, and deprivation of salt without the substitution of the bromide had little effect compared with that produced by the combined deprivation of sodium chloride and substitution of potassic bromide.

The Treatment of Gonorrhea.

Bleicher (*Wien. Med. Woch.*, April 6, 1901) recommends the following treatment for gonorrhea. The patient remains in bed for ten days with an ice-bag applied to the penis, and takes balsam of copaiba twice a day. On the eleventh day the copaiba is left off, and injections of potassium permanganate commenced (1 in 1,000). For the first week injections are made three times, and for the second week four times, a day. The fluid is retained for ten minutes. After this the discharge has become catarrhal, and an astringent injection of sulphate of zinc and alum is substituted. Cases are usually cured after a week of the latter treatment. The writer attributes the success to the ice-bag checking the multiplication of the gonococci. He advises all injections to be warmed to 25° C. The treatment in bed is more applicable to military hospitals than to private practice. H. de Brun (*Journ. des Praticiens*, June 15, 1901) recommends picric acid as an injection for gonorrhea. Injections are made with a 1 to 2 per

cent. solution two or three times a day. Acute anterior urethritis is said to be cured in four or five days by this method. In cases of posterior urethritis instillations are required. Frank (*Deut. Med. Zeit.,* No. 31, 1901) describes a method of prophylaxis against gonorrhea. He uses 20 per cent. solution of protargol in glycerin, with which is mixed a small quantity of perchloride of mercury (1 in 2,000). This injected into the urethra, according to the writer, acts as a preventive measure.—*British Medical Journal.*

Local Treatment of Acne.

Charneil (*International Medical Magazine,* November, 1901) recommends the following formula for the local treatment of acne. When the skin will bear it, he uses sulphur lotions of which the following is an example:

Precipitated sulphur	25 Gms.
Camphorated alcohol	60 Gms.
Rose water	200 Gms.
Distilled water	215 Gms.

M. et Sig.: Shake before using. Apply at night with brush, allow it to remain all night, and wash in the morning with quite warm water, followed by hot compresses.

When the skin is intolerant of this, use simple antiphlogistic treatment; spraying with simple weak antiseptic solutions will be especially useful. When the pustules are in locations not exposed to view, such as the neck, back, etc., tincture of iodine applied in the beginning of the inflammatory process will frequently abort them. About the face use a wash of alcohol, saturated with boracic acid. For acne rosacea he uses scarification carried only as far as the deep surface of the skin, no further for fear of producing scars. Hot compresses to the face are always to be used as in simple acne. In the case of hypertrophic acne surgical intervention only will avail. This consists in "skinning" the nose. With a bistoury the entire skin is raised, keeping as near as possible to the under surface. The face will usually recover with a smooth cicatrix and good morphologic results.

Subcutaneous Injections of Chaulmoogra Oil in Leprosy.

Hallopeau (Lepra, *British Medical Journal,* November 13, 1901) comes to the following conclusions: (1) Lepers treated with large doses of chaulmoogra oil, either by intramuscular injections or by the mouth, may show so much improvement as to be

considered cured. (2) More frequently the disease continues to show itself, but usually in a benign manner. (3) In some cases marked local and general exacerbations occur in spite of the treatment. (4) The effect of chaulmoogra oil although beneficial, cannot be compared with that of mercury and iodine in syphilis or of quinine in malaria. (5) The hypodermic method is to be preferred if it is well borne: it is, however, a painful method. (6) The comparative effects of the various products supplied under the name of chaulmoogra oil should be studied. Du Castel (*loc. cit.*) is not in favor of subcutaneous injections as a routine method on account of the pain and induration and the possibility of fatty pulmonary embolism.

The Serum Treatment of Syphilis.

Moore (*British Medical Journal,* Oct. 26, 1901) reports thirty cases of syphilis treated with serum obtained from patients with tertiary syphilis. The serum was obtained by means of cantharidin plasters, and from 10 to 40 cubic centimeters injected every three or four days for one or two months. Cases of refractory syphilis quickly improved, and the improvement is said to be more lasting than after a course of mercury or iodides. Syphilitic sores heal under local application of the serum on compresses. The best serum was obtained from robust persons in the later stages of syphilis, and those patients who were treated with the serum yielded in turn better serum than those who had been treated with mercury.

Treatment of Lupus by Blue Light.

Colquhoun (*New Zealand Medical Journal,* March, 1901) describes a simple modification of Finsen's light treatment. The patient sits with his back to the window and sunlight is reflected from a mirror and focussed through a biconvex lens of eight to twelve inches focal length. Between the patient and the lens is a bottle containing an aqueous solution of ammoniac sulphate of copper, and to absorb the heat rays. The patient receives on the diseased patch a concentrated beam of blue light. Good results are claimed in cases of lupus after daily sittings of an hour's duration.

OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,

Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

The Bacteriology of Otitis Media: A Summary of Recorded Observations and a Laboratory Study of 76 Cases.

F. Funke (*American Medical Journal*, November 16, 1901) has drawn the following conclusions from an observation of 76 subject:

1. There is no specific organism of otitis media.

2. Acute otitis media is not invariably monomicrobic, as is commonly held. The pathogenic organism present may be alone, but with it are frequently found a varying number of associated bacteria which may or may not be influential in determining the outcome of the case.

3. The organisms commonly found, in the order of frequency, are: The pneumococcus, streptococcus, pyogenic staphylococci (albus and aureus) and bacillus of Friedlander. I am strongly inclined toward the belief in a definite grippal otitis, primarily due to the influenza bacillus, which, however, becomes quickly associated with or replaced by other organisms.

4. The bacillus diphtheriæ is more commonly present in otorrhea than is usually believed; it may be (*a*) the initial infecting agent, (*b*) it may enter with the streptococcus or pneumococcus, or (*c*) it may be a secondary infection carried to the already infected ear by the fingers of the patient or otherwise, as held by Baginsky.

5. It is reasonable to believe, as my observations show, that it persists for a varying period of time in the discharges, and may constitute a center of danger just as has been thoroughly established concerning its prolonged residence in the nasal cavities, pharynx, etc. Its frequent association with bacillus pseudodiphtheriæ has here the same significance as elsewhere, a factor not as yet fully determined.

6. The streptococcal infections are more grave and persist longer than pure pneumococcal infections, but both are usually supplanted by the staphylococci sooner or later.

7. There is a true pneumobacillary otitis usually acute and quickly converted into a mixed infection. The gravity of the process depends almost exclusively upon the character of the mixed or secondary infection.

8. Chronic suppurative otitis media is practically always a sequence of the acute.

9. Like the acute it posseses no specific organism.

10. Unlike the acute it is practically always polymicrobic.

11. Its polymicrobic character may be evinced in any of three ways: (*a*) A mixed infection of pathogenic organisms; (*b*) one or more recognized pathogenic organisms (usually pyogenic staphylococci) with one or more bacteria usually regarded as saprophytes; (*c*) the usual pyogenic and pathogenic bacteria are absent, and the discharges are maintained through the activity of organisms that commonly lead a saprophytic existence.

12. While anaerobic organisms may play an important part in the pathogenesis of chronic suppurative otitis media, my observations have not established their almost constant presence as maintained by Rist.

13. The fetor met in the cases here reported can be explained by the presence of bacillus pyogenes fœtidus without anaerobic organisms.

14. All clinical and collated bacteriologic data indicate that otitic inflammations present different bacteriologic findings in different localities. According to Moos, during the influenza epidemic of 1890, the otitic complications were due to the pneumococcus in Vienna (Weichselbaum), and to the streptococcus in Strasburg, in Greifswald, and in Bonn (Rippert).

15. Reports gathered from literature establish the existence of a primary tuberculous otitis, but all observers are of one mind as to the almost utter impossibility of routine demonstration of the bacillus in the discharge.

16. For the demonstration of the tubercle bacillus in suspected cases, I would recommend the examination of tissue obtained by the curette.

Symptoms Pointing to the Necessity for Operative Interference in Mastoid Suppurations.

At a meeting of the New York Academy of Medicine, October 9, 1901, Dr. Wendell C. Phillips mentioned pain as the most marked symptom of mastoid involvement appearing in the course of acute suppuration of the middle ear. This pain, which may or may not be constant, comes on usually some time after the excruciating pain which precedes suppuration of the middle ear has passed away, is dull, heavy, not definitely localized, but diffused over the surface of the temple. With it there is a feeling of fulness, heaviness and pressure over the entire parietal region. Tenderness upon pressure over the mastoid is another prominent

symptom, and it is especially significant over the mastoid antrum. Facial expression of deep anxiety and unhappiness was given prominent mention, as also the position of head usually hanging forward and leaning towards the healthy side. Temperature was also considered, but it was not a very important symptom in mastoid involvement. The drum membrane should be very carefully inspected, and when it is found to be bulging, together with a swelling of the posterior superior portion of the wall of the external auditory canal, a picture is given which constitutes one of the most prominent symptoms of mastoid suppuration. Prolonged tenderness upon pressure over the region of the antrum, together with the bulging described, gives sufficient reason for operative interference, especially so when the pus contains streptococci or staphylococci.

Free incision of the drumhead carried well through the attic region into the external canal establishing free drainage and allowing the escape of pus, will often completely relieve all indications of mastoid involvement. Irrigation with hot water was recommended through all the stages of middle ear suppuration and even after mastoid symptoms appeared. Phillips believed the ice-coil should not be used longer than 24 or 36 hours, and he considered the continued use of poultices almost as bad; in fact, any prolonged attempt at aborting mastoid involvement was to be deprecated. The patient should be placed in bed and remain there until all unfavorable symptoms had passed away. The mastoid cells should be opened externally with no delay in all cases of acute suppurative inflammation, when a permanent remission of symptoms has not been brought about by free drainage through the drum membrane, or by the application of the ice-coil or poultices or from local blood-letting. The author believed in the removal of all diseased tissue. He did not advocate the Wilde incision, as nothing was expected from it other than the local blood-letting.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Lecturer on Dermatology, Detroit College of Medicine.

Treatment of Ringworm of the Scalp.

Henry W. Stellwagon, M. D., Philadelphia (*Journal of the American Medical Association,* November 23, 1901) gives the following:

There are certain adjuvant measures which should be men-

tioned first, before taking up the manner of application of the several remedies. First, the hair of the entire scalp should be kept clipped very short, about one-fourth to a half inch in length. The disease is then more easily watched, and any new spots detected in their incipiency and promptly treated. In extensive and extremely obstinate cases it is even desirable to have the scalp shaved every five or six days. The spread of the disease to other parts of the scalp and to other children should be prevented by certain routine measures. With this object in view, the scalp is to be washed daily or every second day with warm water and medicated sapo viridis:

Sulphuris præcipitat	ʒj.
Naphthol	gr. xxx.
Saponis viridis	℥j.

M.

The lather should be permitted to remain on for five to ten minutes as it has in itself, as experimentally shown by Thin, an inhibitory or destructive influence upon the fungus which may be scattered about the parts. If there is fear of taking cold, the scalp may be enveloped with some covering. The lather is thoroughly rinsed off, the parts rubbed dry, and then a general remedial application made, chiefly for the purpose of prevention, to the entire scalp. The following is useful for this purpose:

Sulphuris præcipitat	ʒj.
Naphthol	gr. xxx.
Petrolati	℥j.

M.

Or, instead of the salve, a lotion may be used for this general application, consisting of:

Acid. carbol	ʒij.
Resorcin	℥j.
Solut. acidi boric. (saturat)	Oj.

M.

It is possible that the salve is more effectual in preventing the dissemination of the spores, although it is not so agreeable.

Chrysarobin in the Treatment of Ringworm of the Scalp.

Chrysarobin is most satisfactorily applied as a solution in chloroform:

Chrysarobini	q. s.
Chloroformi	℥j.

M. Make a saturated solution.

The areas are painted over with this till well coated with a

film of chrysarobin, the chloroform rapidly evaporating. Over this is then painted three or four layers of good collodion. The plain collodion is a little too brittle, and the flexible collodion scarcely compressible enough; a mixture of equal parts is more satisfactory. In eight or ten hours the collodion is again applied. No further application is to be made till the film so formed begins to crack or break away or begins to loosen, which it usually does in two to four or five days. It is usually loosened by the growing hairs beneath. As soon as it becomes detachable it is gently pulled off, and if there is any active irritation beneath, a mild ointment may be used for a few hours or a day, till this is subdued. In some instances, but if used with care not in many, a mild or moderately severe dermatitis of the surrounding skin may be set up, and under these circumstances it becomes necessary to suspend the remedy temporarily. In rare instances this tendency to dermatitis may repeat itself, the skin of the patient being intolerant to chrysarobin, and it must be set aside and give place to another plan. Such idiosyncrasy is, however, rare. If the patient or attendant is careless, some of the chrysarobin may be carried to the face or eye and a temporary disturbance of these parts brought about. This rarely happens, however, with the chrysarobin treatment as here advised, as the remedy is kept covered with the collodion film. In addition, it is advisable to have the patient wear a lining of paper or other material in the hat, which will admit of frequent washing or destruction.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

Assistant Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

Retrodisplacements of the Uterus in Young Girls and Unmarried Women; Their Frequency and the Best Methods of Treatment.

A paper by this title was read by H. E. Hayd (*New York Medical Journal*, Nov. 16, 1901) at the recent meeting of the American Association of Obstetricians and Gynecologists. The author made the following generalizations:

1. The paper was a plea for the more careful examination of young women by competent and skilled men who could undertake any operative measures that were necessary.

2. Every case of retrodisplaced uterus in the young or unmarried or married woman might not require any treatment.

3. If they produce definite symptoms the Alexander operation should be employed, if the case is an "operable" one—that is, if the uterus is freely movable and the tubes and ovaries are healthy.

4. Retroversions and retroflexions in the young and unmarried should never be treated by pessaries, but by the Alexander operation. Tampons and pessaries have their place in retrodisplacements in married women or women who have been pregnant, but they accomplish practically nothing in the displacements of young women.

5. The Alexander operation is safe and without mortality incident to the operation, and no harm can come from its proper performance; even if the uterus subsequently falls, the patient is no worse off than previous to the operation.

6. It does not in any way interfere with pregnancy and future childbearing, but, on the contrary, materially helps the possibility of pregnancy.

7. No pain or distress follows the operation if the case is properly selected, and if pain and suffering result, there existed at the time of the operation latent tubal and ovarian trouble which sooner or later perhaps would require a radical operation. If it becomes necessary to do a celiotomy on a person who previously has had an Alexander operation, the uterus will be found in its normal anteflexed position, which is necessary in every case, whether the tubes and ovaries are removed or not, to insure good health and freedom from future suffering.

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ORIGINAL CONTRIBUTIONS.

REPORT OF THE OBSTETRICAL SERVICE OF THE JOHN SEALY HOSPITAL FOR THE TEN YEARS ENDING WITH 1900.

BY J. F. Y. PAINE, M.D., GALVESTON, TEXAS.

It is not my purpose to offer anything new, but simply the results of the faithful observance of well established rules. In this day no argument is necessary to accentuate the importance of a rigid antiseptic technique in the management of labor, obstetrical operations, and procedures of every kind. Obstetric antisepsis may be said to date from 1847, and to Ignatus P. Semmelweis, of Hungary, belongs the credit of first demonstrating its efficacy. His observations were made in the Vienna General Hospital. Students who were actively engaged in the dead-house and dissecting-room were freely admitted to the lying-in wards, and the women were for the most part delivered by them. They took no precaution in the way of cleanliness beyond washing their hands with soap and water. The morbidity was almost universal, feverless childbeds being infrequent, and the death-rate from sepsis was about ten per cent. Semmelweis bent his energies to finding the cause of the frightful mortality. During the time he was engaged in his investigations one of his associates lost his life by a dissecting wound, and the symptoms of his colleagues' illness were so similar to those of the fatal malady which was raging in his wards that he became impressed with the identity of the two diseases, and convinced that the cause of the deadly scourge was to be found in the infected hands of the students who attended the labors. He forthwith established the rule that students before taking charge of a labor case should wash their hands in a solution of chlorinated lime, and he restricted the number of examinations. The result was an immediate fall in the death-rate, and in the second year of the new régime it had dropped from ten to 1.5 per cent.

Notwithstanding this clear demonstration of the correctness of his views, yet they were bitterly opposed by the profession, and he was ridiculed and despised. It was not until after its introduction into surgery by Lister in 1866 that antisepsis gained a permanent foothold in obstetrics; but to-day it is universally practiced in the lying-in hospitals of the world, and the striking proofs of its inestimable value are shown in the diminished puerperal mortality and morbidity. A few examples will suffice to show what is possible under the present system of aseptic obstetrics. Slowiansky tabulates the results of 176,646 deliveries in fifty-three hospitals in Russia, showing a morbidity of eight *plus* and a mortality of .38 per cent. Leopold records 3089 cases without a death from septic infection. In the Boston Lying-in Hospital there has been 550 deliveries with no death from septic causes. In the Sloan Maternity, New York, there has been one septic death in more than 3000 deliveries. In the New York Maternity Hospital 957 women were delivered without a death from sepsis. Under the beneficent protection of antisepsis, the pauper delivered in a hospital is exposed to less risk than the well-to-do classes who are confined in their own homes. The antiseptic method has almost completely blotted out puerperal fever from lying-in hospitals, where in former years many women died from that disease. While in private practice, with favorable hygienic surroundings, the mortality from septic infection, without antisepsis, may by accidental good luck be very small, it is just this small mortality from which every woman has the right to expect and demand protection at the hands of her medical attendant. When prophylaxis is possible, the liability to disease and death cannot legitimately be left to chance and luck.

I am indebted to Dr. Herbert Sterzing, interne in the obstetrical and gynecological service, for the statistics which follow. During the ten years from January, 1890, to January, 1901, there have been delivered in the John Sealy Hospital 252 women, as follows: full term, 212; premature labor, 11; miscarriage, 5; abortion, 24. Extra-uterine pregnancy was found in three cases not included in the foregoing summary. Twins occurred three times.

According to the hospital register, forceps were used three times. I distinctly recall, however, seven instances in which it was employed, and it is my impression that the forceps operation was done about twenty times in this period. No reference is made to version, and yet my memory is clear that this operation was done twice: once in the case of the second child of twins presenting transversely; and again, axial rotation for the rectification of an occipitoposterior position of the head. The only com-

plications of record are eclampsia, one case;* uremia, one case; hemiplegia, one case; pernicious anemia, one case, with fatal termination. † Two instances of subinvolution are noted, both being discharged cured. No example of postpartum hemorrhage is reported.‡ Lacerations of the perineum and vagina were overlooked. Morbidity was limited to a few cases of fever, resulting from fecal toxemia, digestive disorders, and specific vaginitis.

I greatly regret the incompleteness and inaccuracy of these statistics.

In connection with the precautions which have produced the excellent results above quoted, the fact should be borne in mind that the patients are drawn from among the most squalid and degraded inhabitants of the city, whose surroundings are usually those of crowded and filthy habitations.

At the outset the view was heartily accepted that the main danger in normal labor is that septic matter may be conveyed into the parturient canal. The management of parturition has, therefore, aimed to prevent infection. This prophylaxis consists in thorough disinfection of patient, physician, and attendants, as well as all instruments and appliances employed. The patient at the beginning of labor takes a warm bath, and is well scrubbed all over with soap and water. Then, an enema of soap and water to empty the rectum; after the action of which the external genitals, thighs, buttocks, and abdomen are carefully washed with a 1:2000 mercuric bichloride solution. For obvious reasons, the utility of the preliminary vaginal douche is questionable, and has been omitted, except where there was reason to fear an already existing infection. In the presence of purulent gonorrheal discharges both the vaginal and cervical canals, as well as the vulva, are cleaned thoroughly with soap and water, and subsequently washed well with the bichloride solution. The clothing is changed completely. A freshly laundered night-dress is put on, and the shirt rolled up to the level of the armpits to be out of the way of vaginal discharges, while a thin petticoat covers the parts below the waist. By this arrangement, when labor is over, the soiled shirt is readily removed over the feet with slight disturbance of the patient, and the dry nightgown is pulled down. Barring a few cases of instrumental delivery, all confinements have taken place in the obstetrical ward. The bed used is a firm mattress of moss** covered with a rubber sheet, and over this

*There were several instances of eclampsia within my knowledge during this decennium.

†This, the only fatal case, occurred in 1892 during my absence in the East.

‡A number of these accidents happened, but were repaired immediately.

**The mattresses are frequently disinfected and made over.

a perfectly clean ordinary bedsheet. These are not removed after labor, but over them is placed a second rubber sheet and over it a second ordinary sheet, which are removed after the termination, leaving the first set clean and dry. To facilitate withdrawal from below when labor is over, the second rubber sheet covers only the lower two-thirds of the bed, and the ordinary sheet of the second set does not extend above the woman's hips, to receive all discharges. This pad is made of oakum, jute, or cotton, packed in a cheese-cloth bag of proper size. All materials are sterilized before being used. When labor is over the upper rubber cloth, with the soiled sheet and soaked pad, is dragged down over the foot of the bed, leaving the dry sheet and underlying protection rubber beneath the patient. This simple method of preparing the bed obviates much needless exertion and fatigue, and permits immediate rest, a priceless boon to the exhausted woman who has just passed through the ordeal of childbirth.

Before making an examination or doing any operation, the medical attendant removes his coat, bares the arms to above the elbows, carefully scrapes the under surface of the nails and the fissures surrounding them, thoroughly scrubs the arms and hands with soap and boiled water and stiff nail-brush; and then immerses the hands and laves the arms in a solution of mercuric bichloride, present at confinements and make examinations are required to observe the same antiseptic precautions, and nurses are no less careful than the attendant in complying with the requirements of all antiseptic details.

Examinations by the vagina are restricted as much as practicable; and abdominal palpation has been extensively employed as a means of diagnosis, as well as of noting the progress of labor. Recognizing the fact that the commonest mode of puerperal infection is through the imperfectly disinfected hands of the medical attendant, vaginal explorations in normal labor are suspended after being assured of the presentation and position of the child, its condition, state of dilatation, progress of labor, size of maternal pelvis, and condition of the soft structures of the parturient canal. Three students are admitted to each case of parturition, and the privilege of examination is limited to them.

Normal labor is managed in the most simple manner, no interference being resorted to, so long as the advance is regular. Care is always observed, however, not to allow the duration of the second stage to exceed the limits of safety. After the expul-

1:500, for five minutes.* Students who are permitted to be

*Students who are engaged in dissecting, post-mortem examinations, dressing septic wounds, or have recently been in attendance upon contagious diseases, are not allowed to participate in midwifery cases.

sion of the child, the uterus is guarded by the hand upon the fundus to prevent relaxation; and with the occurrence of the first contraction, the placenta is expressed into the vagina by Credé's method and removed by aseptic fingers. A drachm of the fluid extract of ergot is now given, and the hand is kept upon the fundus until the toilet of the passage and outer surfaces is completed. These measures maintain retraction, promote contraction, and thereby prevent hemorrhage.

The soiled sheets and pads are taken away; the vagina is douched with a 1:2000 bichloride solution at 110° F., as a safeguard to the numerous abrasions and lacerations throughout the genital tract; the nurse cleanses the skin of blood-stains with a similar solution, and dries it with a clean towel; puts under the hips a clean, dry draw-sheet, and over the vulva a pad of bichloride gauze. The binder is universally employed; it supports the stretched walls of the abdomen, compresses the uterus so as to prevent its relaxation, and affords the woman a sense of comfort. The binder is held in place by a perfectly clean napkin, folded square, passed over the perineum and pinned with safety pins in front and back. This napkin not only holds the binder down, but keeps the antiseptic pad in place.

Intra-uterine douching is only resorted to after the birth of a putrid or macerated fetus, when the hands or instruments have been passed into the uterus, or there is reason to fear previous infection from whatever cause.

All instruments used during delivery are sterilized by scrubbing with soap and boiled water and being boiled for ten minutes in soda solution. Sutures for repair of cervical or perineal lesions are always aseptic. All soft textural fabrics—cotton, gauze, etc.—are treated with bichloride solution 1:2000, before coming in contact with the genitals. Rubber clothes are sterilized by washing them over with the bichloride solution.

Lacerations of the perineum are repaired immediately by sutures, aseptic catgut being usually employed. Primary suturing of the cervix is not done, except where the tear is extensive, or is the source of extensive bleeding.

When use of the catheter is necessary, the instrument is asepticized by boiling, and the neighborhood of the meatus and the hands of the nurse are carefully disinfected.

During the puerperium the diet is regulated to meet the requirements of individual conditions and peculiarities, but is as generous as is compatible with healthy digestion. The bowels are moved every day with the aid of a mild laxative when demanded; and the bladder is guarded against overdistention. All meddling

with the vagina during convalescence is scrupulously avoided. No douching is done without some special indication, as infection. An aseptic pad made of sterilized jute wrapped in cheesecloth, or of bichloride gauze, ten inches long, four inches wide, and an inch thick, is applied over the genital fissure to receive the lochial discharge, which is retained in place by the folded napkin pinned to the binder. The pads are changed as often as may be necessary from the amount of discharge, and at each change the patient is placed upon a disinfected bed-pan, and the vulva and surrounding surfaces are carefully but gently sponged with sublimate solution.

The period of confinement to a bed is a matter of conditions rather than time. The conventional rule of nine days is a custom without a reason. Strong women, with health and well constructed uteri, get up sooner; others are kept in the recumbent posture a longer time. Everything depends upon the character and complications of the labor, the strength of the woman, and the condition of the uterus. A good rule is to keep the woman in bed until the uterus again becomes a pelvic organ.

The introduction of antisepsis into surgery and midwifery is perhaps the greatest and grandest triumph of the past century.

OCCIPITOPOSTERIOR POSITIONS: THEIR DIAGNOSIS AND TREATMENT.

BY CHAS. E. PADDOCK, M.D., CHICAGO.

A proper appreciation of presentation and position of the fetus in the latter part of pregnancy or the beginning of labor is as necessary as it is to make a diagnosis in any branch of medicine. That this fact is not deemed of sufficient importance is proven by the number of neglected cases which are daily brought to the hospitals or come under the care of the consulting obstetrician.

Occasionally the position cannot be definitely determined, but such cases are very rare. A familiarity with abdominal palpation will soon place the physician in a position where it will not be necessary for him to be in doubt. The internal examination is hardly necessary to confirm the position or presentation, and, in fact, unless the os be dilated, it amounts to very little, as a rule.

The advantage of making a correct diagnosis of the attitude of the child *in utero* is necessary to the correct treatment of the case, and in vertex presentations, when the head is about to engage posteriorly, or has already done so, we have a condition which

should be considered pathologic, and the diagnosis made early. We have sufficient clinical evidence to establish this fact, and while cases where the occiput is in one of the posterior quadrants of the pelvis, or gravitating that way, are not desirable ones, I feel that much can be done to correct this position, and thus shorten the labor, alleviate the suffering, and lessen the fetal mortality.

Authorities differ regarding the relative frequency of the different positions of the vertex, but most agree that the occiput engages in right oblique to a large extent, about thirty per cent of the cases being occipital right posterior, and about four per cent of this thirty per cent failing to rotate anteriorly and engaging in the hollow of the sacrum. According to Naegele, who has probably given this subject more attention that any one else, the head lies in the right oblique in ninety-nine per cent of all cases. He believes that all O. D. A. positions were originally made up from O. D. P., but this can hardly be so. Agreeing with him, however, were such men as Naegele, Jr., Simpson, and Barry and Dubois. There has also been as great an issue regarding the frequency of O. L. P. The principal controversy has been, however, relative to the frequency of O. D. A. and O. D. P.

It is not the purpose of this paper to enter into this discussion or criticize the different opinions. My rule is to consider all cases where the back is to the right as O. D. P., unless a positive diagnosis of anterior position can be made, and all cases when the vertex presents with back to the left as O. L. A.

Admitting the frequency of the occiput occupying a posterior position, and knowing the dangers which may result before the case is terminated, how can we conduct this case so that the head will rotate anteriorly? It has been my experience that the head does not engage as easily in this position as in the anterior one. In O. L. A., for instance, the head enters the pelvis with both parietal bones on the same level—that is, the biparietal diameter of the head passes through a pelvic diameter parallel with and about equal to one of the large oblique diameters. In O. R. P. position, however, this does not occur, and the head passes through a much smaller diameter.

While it may not be possible to correct every case by posture, the number of successful ones is so large that every case diagnosed as O. D. P. before labor should be treated as follows: Caution the woman to lie upon her right side at night, and at all times when she is lying down. Each night and morning she should assume the knee-chest position for ten minutes. If the head be above the brim, in but very few cases will this treatment fail.

In this position we have the anterior uterine wall the lower, the fetus rotating on its long axis, and the dorsum, being the heavier, naturally will seek the most dependent part of the uterus. The knee-chest position allows the head to settle away from the brim. In taking this position the abdomen must be entirely free of tight clothing. Take another case: when the diagnosis has been made after labor has commenced, but the head still above the brim, the same treatment is often beneficial. The object of the position in these cases is not only that anterior rotation may be favored, but a more perfect flexion of the head may be maintained. If flexion be not secured, we have the sincipital end nearly on a level with the occiput; entering the pelvis in this way labor is delayed, and when the head does settle down the sinciput, coming in contact with the pelvic floor, rotates forward, and the occiput engages in the hollow of the sacrum, or we get a deep transverse in arrest which calls for artificial correction. While we speak of the occiput rotating posteriorly, we probably should say the sinciput rotates anteriorly. Hart's law: Whatever position of the fetal body first strikes the resistance of the pelvic floor, whether it encounters this structure behind or in front of the median transverse line, it is directed forward, inward, and downward under the arch of the symphysis (Hirst).

When the occiput is engaging slowly and the lateroprone position has failed, often much good will result by placing the patient in the Walcher position. There is still another class of cases where the head has engaged the brim, the os dilated, but no progress being made. In this class of cases the treatment to be first attempted is one which will nearly always succeed. To illustrate, I will report a case seen by me in consultation during the past week.

Mrs. M——; white; four-para; previous labors normal. In labor at term. Labor had progressed for twelve hours, with os fully dilated, membranes ruptured, and the head wedged into brim. Forceps delivery had been attempted. In making an examination *per vaginam* I found the large fontanel almost on a line with the small one; in other words, the head was not flexed. I continued pressure with my two fingers upon the sincipital end, and after two pains only I had the satisfaction of feeling the sinciput recede, and the occiput descend. Labor terminated in one-half hour.

In treating these cases we must bear in mind the object sought, and that is flexion of the head upon the sternum. If this can be done by posture, why resort to artificial means of delivery?

I do not intend to enter into a controversy regarding forceps

and version. These undoubtedly have their place in certain cases. I do claim, however, that forceps should not precede posture or attempts at flexion with the hand.

The ideas which I wish to convey in the foregoing are as follows:

1. That a proper diagnosis of position and presentation should be made early.

2. That occipitoposterior positions are frequent; that these positions result in a great fetal mortality, and maternal morbidity.

3. That this position can be corrected and labor shortened.

SURGERY OF GASTRIC HEMORRHAGE AND PERFORATION—THE TREATMENT OF CONGENITAL DISLOCATIONS OF THE HIP AS DISCUSSED AND PRACTICED IN LONDON, ENGLAND.

BY HAL C. WYMAN, M.S., M.D.,

Professor of Surgery in the Michigan College of Medicine and Surgery, Detroit, Mich.

Since the time of John Hunter English surgery has held a high position. The wonderful impetus given to practical study—I might say normal development—by that remarkable man has by no means been forgotten. The student in London visits the College of Physicians, and is at once impressed by the lofty and classic style of its architecture. Statues in its facade of Harvey, Sydenham, Linacre, are ocular demonstrations of the high opinion English people have of their physicians.

Just now the medical schools are opening, and students are plentiful everywhere. At Charing Cross and King's College hospitals, while the number actually enrolled is not quite as large as last year, the enthusiasm for medical and surgical study is all that can be desired.

There is much talk here about the proposed changes in the army medical service. It seems that there has been many deaths from sickness in Africa among the English troops. Army medical officers have been severely criticized. Lay physicians have gone to the front in large numbers to aid their regular military brethren in the treatment of dysentery and typhoid. It is now proposed by Parliament to change the law regulating army practice, and give the army doctor a better chance to improve his art. He is to have a chance to do postgraduate work and develop a sort of specialty inside army medical circles. Men who are in position to know think the proposed changes do not cover the main fault

in the *status quo* as regards sickness among troops. They say it does not matter how good a sanitarian you make the army surgeon, or how good a bedside practitioner he becomes, he can accomplish nothing new for the benefit of the troops until he is given more authority in the matter of requisitions for medical supplies. As it is now the line officers control absolutely supplies of every and all kinds. Much of the serious trouble has been due to defective medical supplies, poor foods for the sick, no medicine, tents, or blankets, etc., etc. We had this same matter up during our trouble in Cuba and Porto Rico.

Surgical discussion in London now is mainly devoted to the treatment of gastric hemorrhages and gastric perforations. We hear it everywhere. And how do we manage such cases in America? is often asked. Diagnosis is sometimes very difficult. If there is a hemorrhage of dark, grumous, partially digested blood, it would not be considered an indication for immediate operation; but, if the hemorrhage vomited is bright-red, indicating rupture of a considerable vessel, an operation is considered imperative. Then comes the question of the location of the bleeding point. What part of the gastric mucosa is involved? I heard of one surgeon who operated and failed to find the bleeding ulcer; but he dilated the pylorus, thinking that might do some good. At the autopsy two ulcers were found in the posterior wall of the stomach near the cardiac orifice, where he could not have sutured them had he learned of their presence there earlier.

Ulcers of stomach which produce hemorrhage are said to be nearly always in the posterior wall of the stomach, and perforations are not likely to occur except in case the ulcer is in the anterior wall. If one has a perforation to deal with he may operate directly the diagnosis is made and expect to find the perforation not far away. Probably every operable case of gastric perforation will be characterized by vomiting, history of poor appetite, severe pain in epigastrium, running into one or both sides, hypochondria, sunken eyes, respiration and pulse of impending collapse. The physical sign of pathognomonic importance is the loss of hepatic dulness on percussion, by escape of stomach gas into the peritoneal cavity between the liver and chest wall, and tenderness on pressure over stomach.

There is a good deal of surgery being done here for the lesions of the pylorus, which are distinguished by dilation of the stomach. Every surgeon goes over his dyspeptic case with great care. There must be no mistake if there is a great tympanitic area reaching from the left of the navel to near the left nipple, and the patient has had vomiting and eructations more or less with advancing poor health. Then his abdomen must be opened, and if

the pylorus is not too thick nor the seat of cancer, he must have a pyloroplasty performed. If cancer has invaded the pylorus and is the cause of the dilatation of the stomach, the thing to do is gastroenterostomy. This type of surgery, although very frequent, appears to be quite new here. The feature of it all, however, which impresses me most is the great improvement in and wonderful precision of diagnosis.

The other day I lunched with one of the young house physicians of the Hospital for Children, and was much interested in some work that is being done for congenital dislocations of the hip. The non-operative method of reduction has never given really satisfactory results because it is commonly not undertaken until the children are so old that the acetabulum has disappeared, filled up, or rather traveled to a new place just below the crest of the ilium or on the dorsum of the same. But now by means of more powerful mechanical extension the head of the bone is pulled down where it belongs. If hamstrings or other tendons or muscles are in the way and do not stretch sufficiently, they are cut subcutaneously. Then by manipulation—abduction with extension—the head of the femur clicks over the rim of the acetabulum into place. If, however, it will not stay there readily with the help of spica plaster dressings, an incision is made above and in front of the trochanter, and through it the capsule of the hip-joint is divided in front of the intertrochanteric line, the ligatures cut away, and anything else that interferes with the replacement in the acetabulum is dug out with a sharp spoon or chisel. And if this does not accomplish the purpose, the head of the femur is carved down until it will fit. They dress their wounds of the capsule of the hip-joint open, but with thorough antisepsis of course. I have not seen many cripples about London, and perhaps the vigorous treatment joint troubles receive here accounts for it. A good, wholesome cripple is not a discouragement to surgery.

SOME PRACTICAL POINTS.

BY W. THORNTON PARKER, M.D.,
Springfield, Mass.

A USEFUL SURGICAL DRESSING.

Boro-chloretone is a most convenient dressing for the treatment of numerous cases which are constantly being met with in general practice: accidents where large portions of the flesh are abraded—for instance, where patients have been thrown violently

from carriages, bicycles, etc.—and where large abraded surfaces are very painful and need protection. One case I saw this summer, where a man was riding in an open trap; the horse became frightened, and he was thrown out. His face was not cut, but large portions of the forehead, cheeks, chin, nose, and lips were very much denuded, and quite painful. In such cases as these boro-chloretone can be quickly dusted over the abraded surface; this should be done very generously, and then bandaged with ordinary gauze bandage.

As a surgical dressing boro-chloretone is most convenient, and every emergency case should contain at least one can for instant use. For railroad emergency cases it is indispensable, and will be found valuable in its instant allaying of pain. It possesses anesthetic properties, and so is useful in all painful affections of the skin. It forms a valuable artificial covering for burns and eczematous affections. It is, as its name implies, a reliable antiseptic.

It is also an active germicide, and reduces the risk of septic infection. Those who believe in *dry* dressings will find boro-chloretone an ideal application. It is manufactured with the care and skill usual in all of Messrs. Parke, Davis & Company's elegant preparations.

RECTAL ALIMENTATION.

When from any cause we cannot nourish our patients by mouth, rectal alimentation becomes of serious importance. From very early times in medical history many methods have been devised. Injections of nutritive enemata, nutrient suppositories, fresh blood, serum, etc., are relied upon in critical emergencies where ordinary nutrients are impracticable.

Mosquera's beef jelly is a ready-made nutrient for rectal alimentation of the greatest convenience and reliability. It can be used in several ways—by injection in combination with "taka-diastase," or with peptonized milk gruel, or with beaten eggs; but more convenient and efficacious is its use *by itself* in the form of a jelly in a specially constructed syringe, as follows: A syringe large enough to hold at least half an ounce of the jelly, or twice that quantity, and long enough to reach well into the bowel. The rectum is first to be thoroughly washed out with a suitable antiseptic fluid, and then the syringe introduced. Careful attention should be given to making the introduction as easy as possible by generous lubrication of the anus. The jelly is loaded into the syringe, and then after careful introduction into the bowel the piston pushes out the nutrient at one motion. These syringes and nutrient jelly are supplied by Messrs. Parke, Davis & Company.

The injections should be repeated every six hours, or oftener if necessary. This method will be found convenient in all adult cases requiring rectal alimentation.

ACUTE MILK INFECTION.*

BY EUGENE C. ROEMELE, M.D., LOUISVILLE, KY.

In as brief space as possible I will endeavor not to impart to you any knowledge, but merely to review the so-called disease, cholera infantum.

Etiology.—Though not a disease like tuberculosis, which is characterized by a specific microorganism, no one in these times of modern investigations will doubt that it is a disease of bacterial origin, the microorganism not yet being isolated.

The disease is almost limited to infants artificially fed. This food is in all cases milk of some kind; therefore it is the medium by which the poison-producing organism is carried into the system. The exact germ being yet unknown, milk being the medium by which the disease is produced, leads me to adhere to the term acute milk infection and not cholera infantum.

Many writers say that this disease is secondary to a mild diarrhea, but too many well developed and typical cases have been seen in infants previously healthy. The disease is limited to the hot months, when the temperature exceeds 60° F. Infants fed exclusively from the breast practically never suffer from this malady. The exceptions to this, if there be such, must arise from the introduction of powerful toxicogenic germs into the alimentary canal in some unusual manner.

Symptoms.—The disease is characterized by sudden vomiting and purging, very likely in a previously healthy infant. The patient may also have been suffering from a mild diarrhea. These symptoms may continue until death, which may occur in a few hours. The natural color soon disappears and a deathly pallor spreads over the countenance. The eyes are sunken. The food in the stomach is soon removed by vomiting, but the vomiting continues, and mucus, colored with bile, is thrown off. Any food or drink increases this distressing symptom. The stools, which at first are normally formed, and contain undigested food, soon become watery and copious, and finally are composed almost solely of blood serum. As the stools become more abundant, they lose

*Read before the Society of Physicians and Surgeons, Louisville, Ky.

all color, at first having a yellow or green appearance. Thirty or more stools may be passed in twenty-four hours in severe cases, when the reaction will be alkaline.

In diseases of infancy and childhood there is no other disease in which wasting proceeds so speedily, and exhaustion more quickly. The skin is cold and clammy, but the temperature will be found to reach 102° or 104°, and in severer cases it may reach 106° or 108° before death. The pulse is weak and rapid, and respirations are shallow and irregular. The infant soon falls into a comatose condition, though there may be great restlessness, wild delirium, and convulsions. There is intense thirst. In some cases the vomiting and purging suddenly cease, which however is of ill-omen, it being usually the precursor of death. In some instances, where the amount of poison absorbed is great, the infant may pass into an algid state with a subnormal temperature. These cases almost always result fatally.

Treatment.—This must be prompt and energetic. The administration of the poison should be positively discontinued. No milk whatever should be given, whether sterilized or not. Prepared baby food should be "thrown to the dogs." A conscientious nurse, who will follow directions closely, should always be in attendance, for fear the good grandmama or mother will give the baby food, thinking she knows what is best for it. The next thing to be done is to remove the poison as far as possible from the alimentary canal; the vomiting and purging are attempts on the part of nature to remove this deadly poison, but are ineffectual. The stomach and intestines should be washed out at the first appearance of symptoms of the disease. True, this method is somewhat exhausting, but not near so much so as the vomiting and purging, and the artificial measures are much more effective. Irrigate the bowels with a gallon or more of warm water and Castile soap; then follow with an injection of cool water, with fifteen to thirty grains of tannic acid to the pint. Some of the poisons are formed of proteids which are precipitated by tannic acid, but until the large mass of proteids in the large intestines is removed, no good can be expected from this agent. The object of the tannic acid irrigation is to render inert any soluble poisonous proteid which may remain in the intestines after the first irrigation. The stomach should next be washed out with a solution of chloride of sodium and water, one drachm to the pint. Calomel should then be given in one-tenth-grain doses every half-hour, until one grain is given. This is given for its antifermentative action, and in order to reach the small intestines, which are not accessible to the irrigation. After vomiting has ceased, stimulants should be given, whiskey and brandy being highly lauded; but I prefer the treatment recom-

mended by Professors Vaughn, Holt, and Larrabee. This consists in the hypodermic injection of one one-hundredth of a grain of morphine and one eight-hundredth of a grain of atropine, used as a heart stimulant. For the reduction of slight temperature sponging is all that is necessary. When it exceeds 104 the patient should be put into a bath of warm water, and then the water should be cooled off by adding ice until its temperature is reduced to 85°, the patient being rubbed all the while it is in the bath. The patient should have no food for twenty-four hours or more, when warm meat broths, in teaspoonful doses at intervals, should be given; but these are to be discontinued if they provoke vomiting. No milk whatever should be given for several days. The nurse's hands should be disinfected after changing the napkins, which, of course, must also be disinfected before using again.

M. Andre Broca, of Paris, *agrégé* professor of physics, was recently experimenting with a Rhumkorff coil and received a shock with a powerful current. The sensations which he experienced are particularly interesting at the present time, the recent execution of Czolgosz having drawn special attention to the effect of severe electric shock. M. Broca had in each hand a very large electrode, to which circumstance he owed his escape from burns. He was thrown violently to the ground, had a sensation as of his heart ceasing to beat, and quite gave himself up for lost. He tried to call his assistant to switch off the current, but could only make an inarticulate noise. He lay at full length on the floor and felt no sensation in his hands or arms, while the walls of the room appeared of a green color and as if they were leaning over to the right. When the assistant had cut off the current he went to M. Broca and raised him up. M. Broca was able to walk slowly, but felt as if he possessed only a head and two legs; he tried to move his arms, but they were paralyzed. When they were sharply pinched he felt nothing, but on the contrary his fingers were hyperesthetic—for instance, on touching a piece of metal he felt a sensation of extreme cold. About a quarter of an hour later he could move his fingers and was able to write very slowly. On trying to walk he at once became short of breath. When he got home, however, he was able to walk slowly up five flights of stairs. Some hours later he had violent cardiac palpitation, but after two days he felt perfectly well. It is noteworthy that after receiving the snock M. Broca retained perfect consciousness and said to himself that he was dying.—*Lancet.*

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

All communications regarding papers, reports, etc., should be addressed to the Editor of THE MEDICAL AGE, P. O. Box 484, Detroit, Mich.

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EDITORIAL ARTICLES.

THE ADVERTISING SPECIALIST.

One of the serious enemies of the regular medical profession is the quack who engages in practice with the same medical training as his professional rival who pretends to no single method of accomplishing cures, who employs the usual means of diagnosis and treatment, and who cuts himself loose from the regular medical profession solely by his indifference to ethical principles.

It should be remembered that the matter of advertising is not in and of itself an evil. All of us advertise by displaying signs, and while custom and good taste suggest certain limits of size and number, we cannot expect the laity to ostracize a physician simply because his sign is larger than ours, or because his name appears on the window of a business block. Indeed, local customs vary greatly in this regard, as in other matters of etiquette, and the distinction between etiquette and ethics should always be kept in mind. It is a sensible rule that a sign should indicate the occupation of the man who displays it, yet, purely as a matter of prejudice, most regular specialists submit themselves and prospective patients to annoyance and delay because they announce themselves in exactly the same manner as general practitioners. The laity will not shun the quack because he has the good sense to declare what kind of cases he is prepared to treat. Even newspaper advertising, to a modest degree, is authorized by the most nearly official union of regular physicians in the country, though very few take advantage of the permission. Knowing local customs and professional precedents, it is usually easy to say whether a man is using legitimate and professional means of making himself known in the community or not. It is practically impossible to codify rules in this regard, or to expect the laity to give serious attention to the extent to which a physician employs the letters of the alphabet.

The honest quacks, rightly enough, argue that it is better to pay for advertising space than to sneak around among newspaper men begging personal mention of operations and wonderful cases;

yet there are numerous instances in which the work of regular physicians and surgeons is connected with genuine news, or in which their personal movements are of the same interest as those of merchants and bankers. The only practical rule is to accept whatever notoriety comes spontaneously, to check anything of a sensational kind, and to separate as well as possible one's personal and social from one's professional life. But this rule, however feasible for oneself, cannot successfully be applied to another. In the long run, we can usually distinguish sincerity and straightforwardness from duplicity and egoism. Unfortunately, business success is not always so discriminating as we might wish.

To the comparatively few members of the regular profession who may yearn after the privileges of newspaper notoriety, we may suggest that its advantages are specious. If every regular physician were free to avail himself of the popular press to seek patients, the very ones who need this aid would find that they could not truthfully use it to "catch up" with their more fortunate comrades, for the latter would have the same advantages of prestige, length of practice, number of patients, office equipment, etc., which they enjoy at present. If the whole profession advertised, there would simply be an added tax of time, trouble, and expense, and a loss of dignity.

From the standpoint of society—and this is the only standpoint which can rightly be employed in the consideration of any question of policy—what is the essential inferiority of the quack, graduated under the same laws and requirements as his professional competitor? We believe that his ability to do good work is diminished on three accounts: first, the distraction of his attention from medical study by the demands of purely business matters; secondly, his ostracism from the society of his fellows; thirdly, his lack of contribution to the common fund of medical knowledge. The chief fallacy of our laws regarding medical training is that these laws often overlook the all-important fact that a good physician or surgeon must always be in a state of development. No matter how thoroughly he has been trained in the technicalities of medicine, if his general education has been shortened or if his brain is of poor quality, he will soon become a back number. In medical practice, each of us is dependent upon the criticism and assistance of others. The quack may—and many do—buy this help second-hand, by subscribing to medical journals and purchasing text-books, but the prompt and most valuable aid of medical societies and of personal intercourse is lacking. Finally, we must recognize that every man who drops out of affiliation with his fellow practitioners of medicine removes his own power of adding to the general fund of medical knowledge.

ITEMS AND NOTES.

The segregation of lepers in the Island of Bary, Philippine Islands, has been recommended.

The Red Cross Society has stations ready for the campaign against malaria on the Roman Campagna.

Pan-American Emergency Hospital was formally closed Nov. 2d after having treated more than 6,000 patients.

The physicians of Montreal are making great efforts to establish a sanitarium for tuberculosis patients near that city.

William Waldorf Astor has presented $50,000 to the National Society for the Prevention of Cruelty to Children.

The Veterinary School of Harvard has turned its 12 remaining students to the University of Pennsylvania, paying their tuition there.

In the town of Juan Diaz, Porto Rico, there are 2,500 inhabitants, 1,000 of which are estimated to be victims of the morphine habit.

$10,000 has been donated by Dr. Kelly to Johns Hopkins Hospital; the money will be used to build a large addition to the gynecological department.

The nurses of Boston are taking steps to establish the McKinley Order of Nurses, to be in this country what the Victoria Order of Nurses is in England.

Russia, Germany and Roumania have entered into a mutual agreement that in the future no passports will be issued to persons with pulmonary affections.

A project to build a hospital as a memorial to the late Dr. A. J. C. Skene has been abandoned; the money which was subscribed has been returned to the contributors.

The University of Leipsic, under the will of the widow of Dr. Puschmann, late professor of the history of medicine at Vienna, has come into possession of her entire property, about $250,000.

Mrs. Fitzpatrick has made a gift of $10,000 to the Royal College of Physicians in London to found a lectureship on the history of medicine. This is in memory of her husband Dr. Fitz patrick, a distinguished member of the college.

THE Gretwick Pathological Laboratory of the University of Buffalo is about completed; all the apparatus of the laboratory which is now in the University will be transferred to the new building. Dr. H. R. Gaylord is the director in charge.

SURGEON HARRIS, of the U. S. cruiser *Albany,* in a report to the surgeon-general of the navy with regard to the condition of his ship, says that from a sanitary point of view the *Albany* is so radically wrong as regards construction that it is almost impossible to relate in detail the necessary changes which will have to be made before this ship will become a sanitary vessel.

THE Canadian Director General of Public Health has issued a circular to all Canadian steamship companies requesting medical officers of vessels to prepare and hand to the Canadian health officers on the arrival at Canadian ports a statement of the temperature of every person on board taken within 24 hours of arrival. This measure has been adopted in order to guard against plague.

DAVID HARRIS, former health officer on the diamond fields, South Africa, writes the *Lancet* that he practiced in that region in the early "eighties," when malaria was very prevalent there, and he avers the entire absence of mosquitoes. The population numbered about 70,000. With extension of the railway from Cape Town 2 or 3 years later came the first instalment of mosquitoes. But malaria steadily decreased in his own very large practice and elsewhere in general.

THE *Army and Navy Register* records that an alarming percentage of army horses in Cuba have gone stone blind. Of the 2,808 animals inspected in the course of a year 694, or almost 25%, were condemned for blindness. Of the 694 horses thus afflicted 484 were in Cuba. The affliction does not yield to treatment and the veterinarians are at a loss to explain or account for it, though they have concluded that it is not caused by the glare and heat of the tropic sun, as it was at first supposed. In the Philippines, where the climate is much the same as in Cuba and Porto Rico, no such disease appears to exist so far as indicated by the figures. In these latter islands a great majority of the animals condemned during the year had glanders, but it is reported the disease is now being gotten under control so that its spread may be largely prevented.

A STUDY of the last census bulletin, relating to the statistics of disease, compared with the census of 1890, shows, according to *American Medicine,* that there has been a decrease in deaths from tuberculosis of 59.9% in 100,000 of population. But while

tuberculosis has decreased, pneumonia has increased 5%. Influenza has increased so that the death-rate from it is 23.9% in 100,000. Other diseases in which the death-rate has increased, in the order of percentage are: Kidney affections, apoplexy, cardiac disease and carcinoma. Deaths from old age and premature births have increased during the last decade. The increase in kidney disease is 24%, or a death-rate of 83.7 in 100,000. In the general death-rate there has been a decrease of 1.8 per 1,000 of population. Owing to the increased sanitary measures the infant mortality rate is lower. In fact deaths of children under 5 years of age have materially decreased during the last 25 years. The length of human life is said to be increasing in the United States. Statistics compiled by the Marine Hospital Service for 1,190 cities and towns in the United States having a population of 1,000 or more indicate an annual mortality for the last calendar year of 17.47 per 1,000 of population, according to the census of 1900. North Dakota, with a death-rate of 6.95 per 1,000 population, was shown to be the most healthy State in the country, and Marion, Ia., the most healthy town. It has a population of 4,100 and there were only 6 deaths in 1900, making the death-rate 1.46 per 1,000.

The new Manila Medical Society is meeting, says the *Journal of the American Medical Association*, with opposition from the Collegio de Medicosy Pharmceuticos. The members of that school claim that no new medical society is needed. There is a so-called society of physicians and pharmacists already in existence, but it is claimed that there have been but two or three meetings of the body within two years, and then only for the purpose of discussing politics, and not questions of importance to the profession, with which the members of the society are supposed to be identified. It will be readily seen that a new medical organization is sadly needed. It is the intention of the new society to hold semimonthly meetings for the purpose of discussing questions pertaining to the practice of medicine and surgery. As a well known army surgeon remarked: "When a Filipino graduates his studies are over. He does not keep abreast the times. The physicians of Manila, outside of the Americans and one or two whom I have in mind, are many generations behind the times. They know practically nothing whatever regarding the modern practice of medicine and surgery. They have taken no steps to investigate the diseases of the tropics; especially has this been the case in regard to dysentery. Very little is known regarding amebic dysentery, and what little is known has been discovered by American practitioners. If the local doctors had made a study of this disease ten years ago, there is no doubt that we would know how to cope with it successfully by this time." The new society will pub-

lish a monthly medical journal, in which will appear the proceedings of the society at the various meetings, as well as original articles by the members of the society.

An interesting paper, says the *British Medical Journal,* was read at the Pan-Hellenic Medical Congress recently held at Athens. Mr. P. Kavadias, Inspector-General of Antiquities in Greece, combated the view commonly held that the temples of Æsculapius at Epidaurus, in Asia Minor, in Crete, and at Rome, were schools of medicine as well as shrines. In opposition to all writers, archeological and medical, who have dealt with the subject, he maintained that the Asclepieia were not hospitals, and the priests were not in any sense physicians. By the records of cures inscribed on the walls of the Temple of Epidaurus he disproved the statements of Strabo and of Pliny that Hippocrates founded his teaching partly on cures wrought in the Temple of Æsculapius, at Cos, and even copied all the therapeutic formulæ among the inscriptions in that temple. M. Kavadias contended that the Epidaurus inscriptions themselves conclusively show that no medical art was practiced in the temples of Æsculapius in the time of Hippocrates. He argued that medicine was originally a folk-lore, the development of which was altogether independent of religion. The first physicians were called Asclepiadæ; but, so far from being priests in the temples of Æsculapius, they were empiric practitioners who learnt their art by tradition, secrets of healing being handed down in the family. In the time of the Roman dominion, however, and especially after the beginning of the Christian era, a great change took place. The temples of Æsculapius, while preserving their religious character, gradually became transformed into sanatoria in which sufferers were treated by the priests, but in the light of such medical science as was available. Patients were persuaded by various artifices that the god Æsculapius himself prescribed the treatment, to which they were expected to submit with religious faithfulness. The sick folk slept in the temples, and their dreams were interpreted for them in an appropriate manner by the priests. The hierophantic part of the procedure was the use of what would nowadays be called suggestion, whereby the patients were induced to believe that the treatment was dictated by the god himself under symbols and images. The system had evidently the great advantage of making the patient submissive, and modern practitioners might sometimes be tempted to envy the "metaphysical aid" which the priest-physicians of Epidaurus in its later days could call to their aid.

NEW PUBLICATIONS.

TEXT-BOOK OF NERVOUS DISEASES.

This is the fifth edition of the scholarly work of Dana, and this fact of itself is a sufficient testimonial to its worth. Of the several text-books on Diseases of the Nervous System from the pens of American authors, probably none has treated the subject in a more thorough and scholarly manner. The work has long ranked as a standard, and has been extensively used in many medical schools.

In the present edition, the author tells us, he has rewritten the chapter on myelitis, and has added one upon general paresis. These and minor changes give us a text-book up to date. The field of psychiatry is left for other authors. The paper is excellent, the type clear, though the book is of necessity very closely printed. The cuts are many and helpful; the binding is attractive.

Text-book of Nervous Diseases. Being a Compendium for the Use of Students and Practitioners of Medicine. By Charles L. Dana, A.M., M.D., Professor of Nervous Diseases in Cornell University Medical College; Visiting Physician to Bellevue Hospital; Neurologist to the Montefiore Hospital; Ex-President of the American Neurological Association; Corresponding Member of the Société de Neurologie, etc. Fifth Edition. With 244 Illustrations. New York: Wm. Wood & Co., 1901.

THE DIAGNOSIS OF DISEASES OF THE CORD.

This small volume has lately been translated from the French by Dr. Jeanne C. Solis, of Ann Arbor, and is well calculated to be helpful in fixing in the mind the salient points of this none-too-easy subject.

In the first section of the book the author considers successively the syndromes of the different columns of the cord, singly and combined; and in the second chapter the diagnosis of the height of the medullary lesion is discussed. The translator has closely followed the original, and the book is one which will bear reading and rereading. It is most helpfully suggestive. The publisher's work is neatly and well done.

The Diagnosis of Diseases of the Cord. Location of Lesions. By Dr. Grasset, Clinical Professor at the University of Montpellier, Associate of the National Academy of Medicine, Laureate of the Institute. Translated by Jeanne C. Solis, M.D., Demonstrator of Nervous Diseases and Electrotherapeutics in the University of Michigan. Pp. 96. Ann Arbor, Mich.: George Wahr.

INTERNATIONAL CLINICS.

The new volume of International Clinics continues to keep the reader in close contact with the best thought of clinical teachers in all parts of the country. There are several notable articles among them, one which indicates the present status of the Finsen treatment for lupus. The field covered by Inernational Clinics is a unique one, and should be appreciated by those desiring to keep abreast of practical medical science.

International Clinics. Edited by Henry W. Cattell, A.M., M.D. Volume III, Eleventh Series, 1901. Philadelphia: J. B. Lippincott Co., 1901.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

The Present Status of the Bottini Operation as a Method of Treatment in Obstructive Hypertrophy of the Prostate Gland.

There is less fear, says O. Horwitz (*Philadelphia Medical Journal,* Nov. 30, 1901), on the part of the patient to submit to the operation than there is to any other surgical procedure so far suggested for the relief of prostatic hypertrophy.

The principal advantages to be derived from the method of treatment are: A short time only is required to perform the operation, which is attended with little shock and usually slight loss of blood, convalescence is rapid, and the mortality is lower than that by any other radical measure.

Cures result in the large majority of cases, especially if the operation is undertaken early. Marked improvement may be looked for in a vast number of cases, where otherwise individuals would be condemned to suffer, as the danger attending any of the other radical methods of treatment would be too great to warrant their employment.

Failures occur in but a comparatively small percentage of cases, want of success being due to the pathological changes and complications which have taken place. Especially is this true in those instances where an incurable cystitis exists.

The operation is contraindicated when a valve-like formation exists, or where there is a greatly increased overgrowth of the three lobes, associated with tumor formation, giving rise to a pouch, above and below the neck of the bladder.

It may be employed with benefit, and safely, as a palliative measure in cases of prostatic hypertrophy of long standing, associated with cystitis, when the general health will be improved and constipation which is usually associated with this condition relieved, mitigating the prostatic spasm of the urethra, and rendering the insertion of the catheter easy and painless.

Pyelitis, when present, adds greatly to the danger of the operation, but is not always a contraindication to its employment.

The character of the growth has but little bearing on the result of the operation.

The operation may be employed as a safe and satisfactory means of causing a suprapubic fistula to close, which so frequently follows a suprapubic cystotomy when the prostate gland is hypertrophied.

In suitable cases it is not only the best radical measure thus far devised for the relief of prostatic hypertrophy, but is attended by the smallest mortality.

The operation is especially indicated in the beginning of obstructive symptoms due to hypertrophy of the prostate gland, and may be regarded as a prophylactic method of treatment.

The operation is capable of producing a symptomatic cure in a great number of cases of various conditions and configurations of the prostate gland due to hypertrophy, as is shown by the disappearance of prostatic spasm, the restoration of the function of the bladder to its normal condition, and the improvement of general health.

When operating early, before the prostate has become much enlarged, the safest method to pursue is to perform a preliminary perineal cystotomy, introducing the "perineal galvanocautery incisor" of Chetwood, so as to make the incision in the prostate.

In some instances a prolonged preparatory treatment is necessary before the operation can be safely undertaken.

In cases of prostatic obstruction which has existed for a lengthened period, where there is chronic cystitis, the physical condition of the patient being below par, both local and constitutional treatment must be persisted in for months after the operation before the great benefit derived from the procedure can be insured, which treatment would be ineffectual unless the obstruction had first been removed.

The Treatment of Movable Kidney.

Henry Morris (*Lancet*, Nov. 30, 1901) says that when movable kidney is associated with enteroptosis no operation should be performed on the kidney unless it is evident that the more serious symptoms are due to the mobile kidney alone, and not until after the trial of a well fitting adbominal support and the careful dietetic and medicinal treatment of the gastric and intestinal disorders. Should these means fail and the kidney evidently be most at fault, nephropexy, followed by the wearing of an abdominal belt, should be tried.

When a movable kidney is complicated by a movable liver, or when both kidneys move, the same rule should be followed as in general enteroptosis; in the case of both kidneys moving (when both organs have been giving trouble) they should be fixed one after the other at an interval of a week, so that convalescence from both operations may be taking place simultaneously. I have in sev-

eral instances thus operated upon both organs with the most satisfactory results.

When the movable kidney occurs in a hysterical or neurasthenic patient, all palliative means should be tried before resorting to an operation, and the patient's friends should be informed of the uncertainty of the result from operation. The statistics show that a cure may be hoped for by nephropexy in about half of these cases.

For uncomplicated movable or floating kidney, in which the principal symptoms are pain and gastrointestinal troubles, the operation may be confidently advised and carried out without any previous trial of belts or of rest.

When renal crises are a feature of the case nephropexy ought to be strongly urged because of the impossibility of keeping the kidney in its proper place by a belt, and because of the constant risk of hydronephrosis and recurring pain, even if the renal crises can be kept under control.

When a movable kidney gives rise to no inconvenience an operation ought not to be thought of, and a belt need not be worn.

Tendon Transplantation.

Vulpius read a paper at the International Medical Congress of 1900 (*Medical Review of Reviews,* Oct. 25, 1901). He concluded his paper with the following indications for transplantation:

1. Traumatic defect of muscle, tendon, or nerve. Here the smaller the paralyzed area, the easier the employment of grafting. Hence the indication in peripheral palsies of traumatic origin.

2. In peripheral paralysis of central origin. The principal contingent here is furnished by infantile spinal paralysis. The clubfoot which results from the latter must be corrected in connection with the operation of tendon-grafting.

3. Spastic paralysis.

4. Among miscellaneous indications may be mentioned progressive muscular dystrophy, congenital clubfoot, etc.

Vulpius is a firm believer in the utility of the operation. He cites the following case as representative: One year ago he grafted the entire biceps cruis upon a paralyzed quadriceps. The immediate result was very unsatisfactory; but one year later Vulpius was surprised at the degree of improvement obtained.

In spastic paralysis better results are obtained in connection with the leg muscles than in those of the thigh.

Generally speaking, complete failure is rare; relapses may occur, requiring a second operation.

Vulpius judges the value of this form of intervention from the numerous voluntary expressions of satisfaction and gratitude on the part of the patients' parents. He would in no wise neglect the subsequent use of hydrotherapy, massage, electricity, apparatus, and gymnastics.

MEDICINE.

Etiology of Pericarditis.

Cases of acute pericarditis clinically primarily occur, but are rare, according to R. B. Preble (*Journal of the American Medical Association,* Dec. 7, 1901). The writer says that diseases to which pericarditis appears as a complication are, in order of their frequency: pneumonia, 34 per cent; rheumatism, 28.36 per cent; chronic diffuse nephritis, 11.2 per cent; tuberculosis, 10 per cent; sepsis, 4.7 per cent; aneurism, 2.6 per cent; typhoid, 1.7 per cent.

The more extensive a pneumonia the greater the danger of this complication. The danger is somewhat greater with left- than with right-sided pneumonia. Where only one lobe is involved the danger is least with a right upper-lobed pneumonia, and greatest with a right middle or left upper-lobed pneumonia. With a unilobar pneumonia the chances of a pericarditis are 1 in 40; with a bilobar or trilobar, 1 in 10; with a quadrilobar, 1 in 5; and with a pneumonia of the entire left lung, 1 in 8. The mortality of pneumonia with pericarditis is 92.4 per cent.

Rheumatic pericarditis is complicated by endocarditis in 60 per cent of the cases—*i.e.,* three to four times the normal rate of cases of endocarditis. The danger of pericarditis complicating rheumatism is the greater the younger the individual, and is somewhat greater with males than with females. So far as acute pericarditis is concerned, the site and extent of the endocarditis is apparently of no importance. Pericarditis appears as a complication of all forms of nephritis with contraction. It is an extremely ominous thing, for 22, *i.e.* 84.6 per cent, of the cases died. It is still uncertain whether the pericarditis is toxic or infectious.

Tuberculosis excites only one-tenth of the cases, and when one considers the extreme frequency of tuberculosis, pericarditis must be regarded as a rare complication. Pericarditis may be a part of a generalized acute tuberculosis, but is more often the result of a chronic tuberculosis of the lungs or mediastinal glands.

Septicemia and pyemia contribute a very considerable number of cases of pericarditis. The primary focus may be remote or close to the pericardium. Aneurism of the aorta causes 2.6 per cent of all the cases, a very high figure when one recalls the comparative infrequency of aneurism.

Typhoid fever, which is rarely complicated by inflammation of the serous membranes, other than the peritoneum, contributed four cases, which is 1.7 per cent. The cases of obliteration of the pericardium are due to the following causes, arranged in order of importance: endocarditis, tuberculosis, chronic nephritis, aneurism. More than one-half of the cases in which the cause was clear were due to endocarditis, or rather to some cause common to both the endocarditis and the pericarditis, and more than one-half of these cases showed a combined aortic and mitral endocarditis. Relatively six times as many cases of obliteration of the pericardium occur with aortic and mitral endocarditis as with either lesion singly. Tuberculosis causes but few cases of obliterative pericarditis. Pericarditis accompanying nephritis is not always fatal, but may apparently end in the formation of adhesions.

The Origin of Uric Acid.

The association of uric acid with gout has for more than a century attracted the close attention of medical investigators, says the *Medical Press,* editorially. In spite of the advances of physiological chemistry, however, the origin of uric acid in the human body still remains a more or less unsolved problem. That the acid is a normal constituent of the urine, and that it is present in the blood of gouty individuals, are propositions upon which all are agreed, but beyond that point the subject drifts into an outer sea that is vexed with a multitude of opposing theories. It was at one time held by many observers that a definite ratio existed between the urea and the uric acid excreted in the urine, and some physicians still impress that view upon their gouty patients and point to analysis obtained from pharmaceutical chemists as a proof of the value or otherwise of the special course of treatment that is being undertaken. The fact of the matter is that every individual appears to have his own normal ratio. Experimental diets, moreover, can be made to raise or lower the amount of uric acid excreted with precision. Taylor, for instance, on a diet free from nitrogen, had a daily output of 0.273 gramme uric acid and 7.738 grammes of urea. On a purely milk diet the amounts were 0.284 gramme uric acid and 36.213 grammes urea,

and with a diet of 500 grammes of thymus and calf pancreas, together with bread and non-proteid vegetables, the uric acid rose to 1.5 grammes per day. From the first of these experiments it seems clear that the uric acid must have had its origin in the breaking down of the nuclear or nucleinic material of the tissues. That, indeed, appears to afford a rational explanation of a portion of the uric acid excreted, while the rest comes from the purin compounds contained in the food. This twofold origin to some extent accounts for the recognized importance of diet in the production of gout. At any rate the results obtained clearly demonstrate the fallacy of attaching any great importance to the urea and uric acid ratio in the urine. Another experimenter has found that three cups of coffee daily, when added to a normal diet, increased the uric acid excretion from 0.364 to 0.826 gramme. Any medical man unaware of a fact of that kind might be led into all sorts of false deductions from test-tube analyses.

The Double Stain for the Diphtheria Bacillus.

In a reprint from the *University of Pennsylvania Medical Bulletin*, Dr. R. L. Pittfield, assistant bacteriologist to the Pennsylvania State Board of Health, describes the proper way of sharply differentiating the diagnostic signs of the Klebs-Loeffler bacillus. Three solutions are required: (*a*) Silver nitrate 5 grammes, in distilled water five cubic centimeters; and saturated alcoholic solution of fuchsin, three cubic centimeters. (*b*) Pyrogallic acid, 1 gramme; 10-per-cent sodium hydrate in water, five cubic centimeters; and distilled water, 10 cubic centimeters. (*c*) Carbol fuchsin solution, 10 drops; and distilled water, 10 cubic centimeters. After a glass slide or cover-glass has been prepared from the material to be examined the film should be fixed with heat, and a small quantity of the solution (*a*) poured on, heated to boiling, allowed to remain on for one minute, and then washed off. The specimen is then treated in the same manner with solution (*b*), and finally a small quantity of solution (*c*) is poured on, allowed to remain for two minutes, and then washed off and the glass allowed to dry. On examination the organisms will appear of a delicate pink color of slightly uneven shades, corresponding to the density of the protoplasm. At one or both ends, and often in the middle, brilliantly shining black points appear, which stand out very sharp and clear. The cell membrane stains a gray-brown of very light shade. Dr. Pittfield states that the morphology of the diphtheria bacilli varies greatly.

In organisms of very low virulence he has observed that the bacilli exhibit these points at the very ends of the red; they appear simply attached; there may be a small point in the middle. Other bacilli of greater virulence show these points well within the protoplasm, but yet strictly polar as to their position.

A Century of Vaccination.

F. M. Crandall (*American Medicine,* Dec. 7, 1901) in an article under this title says: Vaccination in infancy, renewed at the end of childhood, renders an individual practically as safe from death from smallpox as if that disease had been survived in childhood, and almost as safe from attack.

The duration of the immunity conferred by vaccination is variable. In many individuals vaccination in infancy and revaccination in childhood is sufficient for life protection. In a limited number immunity is lost in five or six years. It is never possible to know with certainty to which class an individual belongs. In the face of an epidemic, therefore, vaccination of all who have not been vaccinated within five or six years is giving what the lawyers call the benefit of a reasonable doubt. Every one who has been vaccinated in infancy and childhood should be vaccinated not less than once in adult life.

The immunity conferred by vaccination is in direct proportion to the thoroughness with which it is performed, and this is shown with considerable accuracy by the character and number of the resulting scars.

Vaccination in infancy alone is not sufficient to wholly prevent smallpox among the adult population.

Optional vaccination has not proved sufficient to protect the community from smallpox. Compulsory vaccination is a measure warranted by more than a century of experience.

The mild compulsion enforced in this country, by requiring vaccination or evidence of its recent performance upon admission to the public schools, should have the hearty support of parents and physicians alike.

Sudden Death from Hypertrophy of the Thymus.

Ducrot (*British Medical Journal,* Nov. 30, 1901) has collected some important information in reference to sudden death in young infants in whom the thymus was apparently to blame. It is a well known fact that many cases of sudden death occur

annually in infants, even among those who are to all appearances in perfectly good health. Death may occur during sleep, and even a mother may be unaware that anything is wrong till she finds the child dead in the morning. In many instances it has been due to overlying. It has now become recognized that in many such cases the thymus is unduly large, and it is essential to examine this organ in all medicolegal necropsies on all young children so dying. The writer describes three clinical forms. Sometimes the child succumbs in a condition of acute asphyxia. He may have had several similar previous attacks, but each had always ended safely. Such a case has been put down to spasm of the glottis, whereas in reality there has been pressure exerted on the trachea by an enlarged thymus. In other cases the child has been carried off suddenly without any previous attack or even warning. The head is thrown back, the pupils dilate, one or two ineffectual inspiratory movements are made, and the child dies without a cry. In the third group a previously healthy child it attacked with progressive asphyxia, and dies in the course of a few hours. It is in this form, if any, that spasm of the glottis might be present. The writer states that the primary cause of the enlargement of the thymus is as yet unknown.

The Value of the Widal Reaction in the Diagnosis of Typhoid Fever in Children.

M. Gershel (*Medical Record,* Nov. 23, 1901) makes the following conclusions:

1. The main facts concerning the Widal reaction in children are the same as those that hold true for adults.

2. In eighty-four cases of typhoid fever in children, ranging from one and a half to fourteen years of age, eighty-one cases gave positive results.

3. In 115 cases that were fevers other than typhoid, the positive reaction was never obtained.

4. The reaction did not occur later in children than in adults, as is claimed by some writers, but on the other hand somewhat earlier. However, we would not lay too much stress on this point.

5. The Widal test is of greater importance in children than in adults, owing to the frequent atypical character of the disease in the former, and the greater frequency of cases resembling pneumonia and meningitis.

6. As pointed out by Morse, the reaction will be of service in establishing the frequency of typhoid fever in children.

Primary Intestinal Tuberculosis in Children; its Frequency and its Relation to Bovine Tuberculosis.

David Bovaird (*Archives of Pediatrics,* December, 1901) from his study of this question finds that English reports alone show any considerable number of cases of primary intestinal tuberculosis.

Primary intestinal tuberculosis is a very rare affection among children in or about New York, little more than one per cent of the cases of tuberculosis having this origin.

The writer says that the evidence connecting tuberculosis among children with the consumption of the milk of tuberculous cows is very scant.

THERAPEUTICS.

The Diagnosis and Treatment of Acute Gonorrhea, with Special Reference to the Value of Protargol.

A. L. Wolbarst (*Journal of Cutaneous Diseases,* December, 1901) says early and active treatment is indicated in every case of acute urethritis, especially before the posterior urethra has become involved in the inflammatory process. The earlier the treatment is begun, the greater is the probability that the inflammation will be confined to the anterior urethra. A meatus of narrow caliber strongly points to the probability of posterior involvement and a severe course of the disease. Early meatotomy may be advisable. The Thompson two-glass test is liable to serious error. Its evidence should be corroborated before it is conclusively accepted. The typical clinical picture presented by the patient in the acute stage is thoroughly diagnostic. The presence of the gonococci in the discharges is corroborative. For posterior urethritis the irrigation treatment is both rational and effective. With proper technique and gentleness, the proceeding is attended with a minimum of pain and danger. It is not essential that potassium permanganate, the most popular medium, be employed for this purpose. Normal salt solution, weak solutions of silver nitrate, and of copper sulphate, have given equally good results, especially when used alternately. The heat of the fluid and the thorough mechanical flushing of the urethral canal are probably the most effective forces in bringing about the favorable results of this method of treatment.

In anterior urethritis protargol in one-half to one per cent solution constitutes a most valuable remedy. It is easily borne,

not irritant nor painful. It may be safely used from the very beginning of the attack, except in those few cases where the syringe itself is not tolerated. The profuse purulent discharge usually disappears within seven to ten days, after which a mucopurulent or watery dicharge may be milked from the urethra, and which totally disappears after two to four weeks under an astringent injection. The gonococci disappear after two to sixteen days, but are apt to reappear (as does the discharge) if the protargol solution is stopped before the end of the third week. The posterior urethra is not likely to be attacked if the treatment is begun early enough and properly carried out. The average duration of the anterior cases, including the obstinate cases, is six weeks, though this period is materially shortened in private practice where the solution is employed three times daily. There is little or no pain or discomfort throughout the entire course of the disease.

The advantages of this method of treatment over the older methods are: Absence of pain and discomfort, brief duration of the profuse discharge, comparatively shorter duration of the disease, diminished danger of complications, early disappearance of the gonococci.

The disadvantages are: Early cessation of the discharge induces patients to suspend treatment before they are entirely cured, thus bringing about an early recurrence. Absence of pain and discomfort minimizes the importance of the disease in the eyes of the patient. If the solution be too strong, there is a possibility of causing posterior involvement, with liability to the usual complications. This is the only danger in the use of the remedy.

The Prevention and Treatment of Malaria.

W. P. McIntosh (*New York Medical Journal,* Nov. 30, 1901) says that in his opinion prophylactic doses of quinine should vary according as the prevailing malaria is mild or grave. The drug should be administered only when required, and then in sufficient doses to destroy the parasites in the blood. The writer says that as the incubative period of malaria is certainly not less than five days, therefore a person visiting a malarious district should take from seven to fifteen grains of quinine at bedtime on the fourth day, and he should repeat this every fourth or fifth day during his stay in the place, or until cold weather puts a stop to the liability of infection; he should also sleep under a mosquito bar and stay indoors after sundown. Small daily doses of quinine, one to two grains, simply habituate the parasites to the presence of the drug

in the blood, and they continue their evolution in its presence. In tertian and quartan fevers quinine acts most markedly on the free young segments and sporulating bodies, less upon the more advanced forms, and least upon the young endoglobular forms. If quinine is given several hours before the paroxysm it will not prevent segmentation, but will destroy the new parasites, the fresh sets of segments. The new groups of organisms being destroyed, the parasites disappear from the circulation. Quinine when combined with camphor and capsicum will cause the disappearance of the malarial parasites from the blood more quickly than quinine alone. The writer says that in the continued or remittent estivo-autumnal fevers he puts the patient upon a prescription which is as follows: Magnesium sulphate ½ ounce, solution of ammonium sulphate 1 ounce, quinine sulphate 4 grains, camphor water enough to make 11 ounces. Of this mixture two tablespoonfuls are given every four hours, fever or no fever. This prescription, says the writer, is good in any form of acute malarial disease in which the fever is continued, or in which the patient cannot take full doses of quinine on account of head symptoms. It produces a gentle perspiration, keeps the bowels open, reduces the fever, and nearly always effects a cure. It also has the decided advantage that it can be used with benefit when the physician, not having the means of exact diagnosis, is in doubt at first whether he is treating typhoid or malarial fever.

Suprarenal Extract as a Hemostatic.

W. Thelwall Thomas, F.R.C.S., in a paper read before the North Wales Branch of the British Medical Association (*British Medical Journal*), said that when an intravenous injection was used in dogs and rabbits, an extreme contraction of the arteries was noticed, demonstrated to be of peripheral origin. The effect soon passed off, but could be kept up by repeated small injections. The action of the suprarenal extract is of great physiological importance in maintaining the tonicity of the muscular tissues in general, and especially of the heart and arteries. Therapeutically an extract has been used in a state of solution, preferably adrenalin, to constrict the small arteries of the conjunctiva before and during operations on the eye, and in the surgery of the nasopharynx. Schafer has mentioned its usefulness in epistaxis; Harris, of Chicago, uses it to constrict the mucous membrane and prevent hemorrhage from the bladder before cystoscopic examination; and Dr. F. Grunbaum recommends it in hemorrhage from the alimentary canal, bladder, and possibly the uterus, the solution as now

prepared being non-irritating; but he doubts its usefulness in hemophilia, assuming this condition to be due to congenital hypoplasia of the muscular coats of the arteries. Notwithstanding this, two cases recently came under the speaker's care in which the suprarenal active principle had the pleasing effect of arresting hemorrhage when all the ordinary remedies had proved useless.

Formalin for Night Sweats.

K. Wohrn (*Deut. Med. Woch.*, Oct. 24, 1901) advises the external application of a fluid soap, made with five to ten per cent of formalin and linseed or olive oil. He makes the soap he recommends chiefly for children. He rubs the soap on the back of the patient energetically for some minutes every evening. The skin is next freed from the soap with a damp towel, and then carefully dried. He has used the method in twelve cases, and has observed a complete disappearance of the sweating in seven. In four others the symptoms materially diminished, while in the last case the treatment was interrupted early on account of the irritation of the conjunctivæ. The soap is further to be recommended on account of its cheapness, 250 grammes (about half a pound), which quantity will suffice for four weeks, costing only 4d.

RHINOLOGY AND LARYNGOLOGY.

UNDER THE DIRECTION OF WADSWORTH WARREN, M.D.

Empyema of the Frontal Sinus; Some Observations on its Treatment.

At the recent meeting of the American Laryngological Society G. L. Richards (*Laryngoscope*, November, 1901) read a paper under this title. He called attention to the fact that the frontal sinus varies in position, size, and thickness. The danger to life of empyema of this sinus he considers to be very small. If exploratory puncture of the antrum were negative, then the source of the pus might be the anterior ethmoidal cells. Transillumination is of some value. As a rule, the entire anterior portion of the middle turbinate would have to be removed as a preliminary measure to treatment. These cases tend to get well if the drainage is thorough enough. The direction of the canal having been determined by means of a probe, a silver or hard-rubber tube, curved like the probe, should be passed in and the sinus washed

out. Where the purulent discharge has lasted a long time, and polypi have formed, it is more difficult to decide upon the best method of treatment. The anterior ethmoidal cells should be thoroughly destroyed with the curette. He had the best results from irrigation when he used a solution of corrosive sublimate, 1-to-10,000. The question of operation must depend upon the presence of evidence of septic absorption, of symptoms of cerebral irritation, or the recurrence of attacks of pain. He prefers to make the opening between the supraorbital notch and the root of the nose, and underneath the ridge, and prefers the mallet, chisel, and curette to the surgical drill. The opening should be made as large as possible, and all the ramifications of the sinus vigorously curetted. The best form of drainage is by the fenestrated rubber tube. The tube should be retained at least two or three weeks. It is best to keep the external wound open for a time.

The Early Appearances of Laryngeal Tuberculosis.

Gleitsmann (*Laryngoscope*, November, 1901) calls attention to the symptom of unilateral congestion of the cords. This symptom, he says, is always suspicious to him either of tuberculosis or of cancer. In the last eighteen months he has seen more than one case in which a thorough examination of the chest and frequent observations of the temperature had failed to show evidence of tuberculosis, and yet an injection of tuberculin had brought out a reaction. The larynx is a good place in which to study this reaction. Reference is made to two instances to show that even in far-advanced cases it is sometimes very difficult to make a diagnosis. In one case he made a diagnosis of tuberculosis of the larynx in which he disagreed, and the patient had been subsequently reported to him as perfectly well. The other case had been brought to this section by one of the members, and had been previously treated in Troy for tuberculous laryngitis. The man had then been sent to Denver, but on his way there had consulted a noted laryngologist in Chicago, who told him that he had no tuberculosis and sent him home. The author says that he had seen this man a short time afterwards, and had insisted that the diagnosis of tuberculosis of the larynx was correct. Eventually tubercle bacilli were found in this case.

These cases were reported to show the difficulties experienced, even by skilled laryngologists of high repute. He further would insist upon the existence of primary tuberculosis of the larynx, and could produce two cases of this kind. The burden of proof should rest on those who deny its existence.

OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,

Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

Frost-bite of the Cornea Due to Excessive Application of Cold in the Treatment of Mild Mucopurulent Conjunctivitis in the New-born.

Two cases of clouding of the cornea have been observed by E. L. Meierhof (*New York Medical Journal,* Nov. 30, 1901) in infants less than two weeks old, evidently due to the excessive application of cold where there was only a mild catarrhal conjunctivitis.

The first patient, an infant ten days old, had had a slight discharge on the fifth or sixth day after birth, and the family physician, fearing he had to deal with an incipient blennorrhagic ophthalmia, lost no time in applying the usual measures for combating the disease, among which was the constant application of ice-cold pledgets.

After the third day of the cold applications both corneæ were observed to be slightly cloudy. At this time Meierhof was called in by the physician to see the case.

The child was small and well formed; its nourishment, however, had not as yet been satisfactory. The eyelids were closed, but not swollen, and were easily parted, exposing each eyeball freely; there was some thin mucopurulent secretion, but it was not very abundant. The inner surfaces of the lids were red, but not thickened; the bulbar portion of the conjunctiva was quite free from swelling or redness; but there was a slight clouding of the cornea.

How to account for the clouding, with such a mild inflammation, and in such a short time, was at first difficult, until it occurred to the writer that the nutrition of the corneal tissue might have been interfered with by the active application of cold, day and night, through lids that were not thickened.

Acting upon this idea, Meierhof ordered the suspension of the cold applications, and in place thereof advised a gentle heat applied at regular intervals by means of warm, moist cotton pads. In a few days he had the satisfaction of seeing the clouding disappear.

Meierhof assumes that the heat gave the necessary support for the proper restoration of nutrition, and aided in the absorption of the necrotic exudate from the superficial layer of the cornea.

The observation of the second case was practically a repeti-

tion of the first one, except that the amount of the secretion seemed to be even less.

The value of ice in the early stages of ophthalmia neonatorum, says the writer, is universally recognized, but the experience with these two patients, where the overzealous application of cold in cases of mild mucopurulent conjunctivitis in the new-born gave rise to such disturbances, should make one cautious, especially where there is little or no swelling of the lids to protect the cornea.

A Case of Blindness from Drinking Bay Rum, Compared with the Reported Cases Due to Methyl Alcohol and to Essence of Jamaica Ginger, Etc.

Dr. H. Moulton (*Journal of the American Medical Association*, Nov. 30, 1901) reports the case of a man, aged twenty-five, who on October 23, 1900, consulted the doctor for total loss of sight. He gave the following history: On September 18, 1899, he and two companions drank a pint bottle of bay rum. His two friends were in no may affected, but he imbibed more freely than did the others, and after a very active day in the saddle he retired and slept soundly. The next morning on rising he noticed an uneasy feeling about the eyes, and shortly afterward a failure of sight. He vomited at intervals during the day. By night he was totally blind. During the two following days he felt "deathly sick," but after this he felt as well as usual, excepting he was blind. Three weeks later some vision returned, but was soon lost. He has remained without light perception ever since. The pupils are dilated and rigid, tension is normal, and media are clear. The optic nerve-heads are opaque, white, and level with the surrounding retina. The nasal valves only of the disks retain a slight pinkish hue. The retinal vessels remain of normal size.

Another case was mentioned, that of a man aged twenty-eight, who while on a spree drank one-half pint of wood alcohol by mistake. Within three hours he was comatose, and remained so on and off for four days. When he recovered vision was reduced to perception of light. This improved, and three weeks later he could see to read a paper. It again became worse, and has remained so. The fundi show optic atrophy with cup 2 D. deep. The vessels are slightly narrowed.

The important point is that wood alcohol is the toxic agent in cases of amblyopia following the drinking of bay rum, Jamaica ginger, and similar preparations, and that we should be able to

make a diagnosis from the symptoms, the most important of which are, at first, gastroenteric disturbances when the dose is small, and coma when it is large, followed by rapid failure of sight, which later improves, but soon relapses; contraction of the fields and absolute, usually, central scotomata, and sometimes total blindness.

In all fifteen cases of blindness due to drinking methyl alcohol have been recorded. A dozen or more cases from essences also are described in literature. An analysis of fifteen cases of wood alcohol blindness, and of twelve cases of blindness due to the essence of Jamaica ginger, bay rum, etc., shows the striking identity of important symptoms. Wood alcohol is rapidly coming into use in pharmacy, especially in making bay rum and kindred preparations.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
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A Contribution to the Therapeutics of Skin Diseases.

Thurston Gilman Lusk, M.D., adjunct professor of diseases of the skin, Post-Graduate Medical School, New York, gives in part the following (*Journal of Cutaneous and Genito-Urinary Diseases*, December, 1901):

A combination of acetanilid, zinc oxide, and iodized starch, in the form of a paint in the following proportions:

Acetanilid	3j.
Zinc oxide	3iij.
Iodized starch, 5 per cent.	3iv.

It is very necessary that the iodized starch be properly and freshly made, and that the acetanilid be finely pulverized.

To a quantity of the above combination sufficient water is added to make a paint or paste, and should be applied with a stiff brush (an ordinary round paint-brush answers well). Liquid albolene, benzoinol, or sweet oil can be used instead of water when the paint is intended for dry surfaces or ulcers. When the paint is almost dry a gauze bandage may be applied to prevent its being rubbed off by the clothing, and in case of varicose ulcers or eczema of leg, a snug muslin bandage should cover a single layer of gauze bandage.

When wet the paint is of a slate color, and when dry a light drab; but when it comes in contact with pus it turns white, showing that iodine has been liberated, giving "nascent" iodine.

It has given excellent results in all superficial skin lesions, especially those due to septic or purely external causes, such as dermatitis from all causes, including superficial burns; impetigo and ecthyma, after first removing crusts; herpes zoster, simplex and progenitalis; tinea versicolor, after scrubbing; chancroids, after thorough cleansing (especially quick result); subacute and varicose eczema; acne of chest, shoulders, and back; folliculitis and perifolliculitis; and by using oil instead of water it can be used with equally good effect in ulcers of all kinds, parasitic eczema, and in certain stages of chronic eczema. If in the latter itching is marked, two- or three-per-cent carbolic can be added to the paint.

Dermatitis from Salicylate of Soda.

In the *British Journal of Dermatology* for November, 1901, Dr. Howard Morrow, of San Francisco, reports the following case in Dr. Kerr's service at the City and County Hospital:

Mr. C——, aged twenty-five, was suffering from acute rheumatism. He was given sodium salicylate gr. xv every three hours. Two days later an eruption appeared on his forehead; by the fourth day it had spread over the face, and on the fifth day it appeared on the neck, both anteriorly and posteriorly. The lesions started as irregular erythematous blotches from one-quarter to one inch in diameter.

About the sixth day most of the blotches became covered with vesicles, which were small, thickly set, but discrete—the other blotches remaining simply red. These were distributed somewhat symmetrically over the forehead, cheeks, nose, and temples. The lesions on the neck were mostly papules, and had a tendency to arrange themselves in circles, on account of the eruption clearing in the center. There was one soft and pulpy nodule, one-half an inch in diameter, on the right side of the neck. The color of the lesions was a bright red. There was a slight burning sensation, but no itching. The vesicles never ruptured spontaneously. This condition remained the same till the tenth day, when the medicine was stopped. Four days after this there was nothing left of the eruption but desquamation and slight pigmentation.

On account of the return of articular pains, sodium salicylate in 15-grain doses was again given. Two days later there was a return of the eruption in the form of scattered papules on the forehead. The medicine was changed to citrate of potash, and the eruption cleared up rapidly.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

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Tuberculosis of the Genital Organs in the Female.

Gorovitz (*British Medical Journal*, Nov. 30, 1901) sums up the chief points of a lengthy article on genital tuberculosis in the female in the following statement: (1) Tuberculosis of the female genital organs occurs much more frequently than has hitherto been supposed. By the help of histological and bacteriological investigations, and of inoculation, many cases of this class of lesions which would formerly have escaped notice can now be diagnosed with precision. (2) Genital tuberculosis, though usually secondary, may be primary. The main object of the practitioner is not only to recognize the primary forms, but to make the diagnosis in the early stages when the lesion has made but little way. Examination of the secretions and of shreds of tissue removed by scraping (curettage) will, from this point of view, render very great service in cases of tuberculous endometritis. This affection, it is well known, is almost always consecutive to tuberculosis of the Fallopian tubes, which is a much more frequent lesion. (3) The results of clinical observation and of surgical intervention show that tubal tuberculosis excites, on the side of the peritoneum, more or less marked reaction, and particularly a special form of peritonitis, with encysted effusion, known under the term of "ascites of young women." (4) Consequently it is advisable in practicing abdominal section for tuberculous peritonitis in the female to examine the uterine annexes, and to make sure of their condition; it will often be discovered that these were the starting-points of the disease, and then, if it be possible, the affected organs should be removed. (5) This removal should be effected by the abdominal method, and the operator should aim at a free extirpation; the abdominal section will serve the double purpose of permitting removal of the original affection, and of acting with beneficial results on the peritoneal lesions; such treatment has, in the practice of Bouilly, been attended with decided success. (6) With regard to the pathogenesis of genital tuberculosis, this affection may be set up by the "descending way" or from the circulation, or by the "ascending way" and from without. (8) Experimental researches made by the writer show that the tubercle bacillus deposited without injury on the mucous membrane of the genital apparatus is capable of germinating there, and of exciting the characteristic lesions of tuberculosis.